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 | NRM1926954907 |
| District RP | 1RP-5694 |
| Facility ID | FGRL0927452039 |
| Application ID | pRM1926953266 |

# 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)* |
| Contact mailing address 522 W. Mermod, Carlsbad, NM 88220 | |

## Location of Release Source

Latitude 32.507902 Longitude -103.276319
*(NAD 83 in decimal degrees to 5 decimal places)*

Eunice Tm

| | |
|---|---|
| Site Name ~~East~~ Monument South Unit Central Tank Battery | Site Type Bulk Storage and Separation Facility |
| Date Release Discovered 8/23/2019 | API# *(if applicable)* 30-025-04490 (for nearby EMSU #228) |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| M | 4 | 21S | 36E | Lea |

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* New Mexico )

## 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) 200.45 | Volume Recovered (bbls) 150 |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | 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

The central processing unit failed at the tank battery. This resulted in the main water tanks overflowing into the open top tank causing the open top tank to overflow. Vacuum trucks recovered free fluids. The release impacted the facility pad, lease road, and some pasture north and northeast of EMSU #228. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

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?<br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br>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)?<br>Notice provided by Amy Ruth to emnrd-ocd-district1spills@state.nm.us email address for NMOCD District 1, and Ryan Mann (SLO) on 8/23/2019 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 not been undertaken, explain why:

No secondary containment.

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: Kyle Littrell
Title: SH&E Supervisor
Signature:
Date: 9/5/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

**OCD Only**

Received by: Ramona Marcus
Date: 9/26/2019

| | | |
|---|---|---|
| **Location:** | EMSU CTB (30-025-04490 EMSU 228) | |
| **Spill Date:** | 8/23/2019 | |

| | | |
|---|---|---|
| **Approximate Area 1=** | 15,531.00 | $ft^2$ |
| **Average Saturation (or depth) of Spill=** | 1.00 | inches |

| | | |
|---|---|---|
| **Approximate Oil %** | 100 | |
| **Average Porosity Factor=** | 0.03 | |
| **Approximate Volume Recovered=** | 150 | bbls |

| **VOLUME OF LEAK** | | |
|---|---|---|
| **Total Oil=** | 156.92 | barrels |

**VOLUME RECOVERED**

| | | |
|---|---|---|
| **Total Oil=** | 150 | barrels |

| | | |
|---|---|---|
| **Approximate Area 2=** | 433.00 | $ft^2$ |
| **Average Saturation (or depth) of Spill=** | 2.00 | inches |

| | | |
|---|---|---|
| **Approximate Oil %** | 100 | |
| **Average Porosity Factor=** | 0.15 | |
| **Approximate Volume Recovered=** | 0 | bbls |

| **VOLUME OF LEAK** | | |
|---|---|---|
| **Total Oil=** | 1.93 | barrels |

| | | |
|---|---|---|
| **Approximate Area 3=** | 6,228.00 | $ft^2$ |
| **Average Saturation (or depth) of Spill=** | 3.00 | inches |

| | | |
|---|---|---|
| **Approximate Oil %** | 100 | |
| **Average Porosity Factor=** | 0.15 | |
| **Approximate Volume Recovered=** | 0 | bbls |

| **VOLUME OF LEAK** | | |
|---|---|---|
| **Total Oil=** | 41.60 | barrels |

| | |
|---|---|
| Incident ID | NRM1926954907 |
| District RP | 1RP-5694 |
| Facility ID | |
| Application ID | pRM1926953266 |

# Site Assessment/Characterization

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

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

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|---|---|
| Incident ID | NRM1926954907 |
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| Facility ID | |
| Application ID | pRM1926953266 |

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: 04/20/2020

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

**OCD Only**

Received by: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1926954907 |
| District RP | 1RP-5694 |
| Facility ID | |
| Application ID | pRM1926953266 |

# 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: 04/20/2020

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:

A proud member of WSP

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

April 21, 2020

New Mexico Oil Conservation Division
District 1
1625 North French Drive
Hobbs, New Mexico 88240

**RE: Closure Request**
**Eunice Monument South Unit Central Tank Battery**
**Remediation Permit Number 1RP-5694**
**Incident Number NRM1926954907**
**Lea County, New Mexico**

To Whom It May Concern:

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 East Monument South Unit Central Tank Battery (Site) in Unit M, Section 4, Township 21 South, Range 36 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following the release of crude oil at the Site. Based on field observations, field screenings, and laboratory analytical results following excavation activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 1RP-5694 and Incident Number NRM1926954907.

## RELEASE BACKGROUND

On August 23, 2019, the central processing unit failed at the Site. This caused the main water tanks to overflow and, subsequently, the open top tank to overflow, resulting in the release of 200.45 barrels (bbls) of crude oil. Fluids were released to the well pad, lease road, and adjacent pasture north and northwest of the well pad. A hydro-vacuum (hydrovac) truck was dispatched to the Site to recover freestanding fluids. Approximately 150 bbls of crude oil 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 September 5, 2019 and was assigned RP Number 1RP-5694 and Incident Number NRM1926954907.

## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well CP 00694, located approximately 1,096 feet northwest from the Site. The groundwater well has a depth to groundwater of approximately 1,218 feet bgs and a total depth of 5,000 feet bgs, which is similar to the next two closest groundwater well data. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 3.05 miles northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low-potential karst area, signifying the lack of unstable geology beneath the Site. The Site receptors are identified 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 of the affected pasture area must be comprised of non-waste containing earthen material exhibiting chloride concentrations below 600 mg/kg, which was applied per NMAC 19.15.29.13.D (1) to the top 4 feet.

## SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On September 11, 2019, LTE personnel inspected the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected seven preliminary soil samples (SS01 through SS07) within close proximity to and surrounding the point of release and along the release flow path at a depth of approximately 0.5 feet bgs to assess the presence or absence of soil impacts at the ground surface. Preliminary soil samples

SS01 and SS03 through SS06 were collected from within the release extent; preliminary soil samples SS02 and SS07 were collected outside the release extent. Soil 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. Photo documentation of the release was conducted, and a photographic log of the Site and the remediation efforts is included as Attachment 1.

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

Laboratory analytical results indicated TPH concentrations exceeded the Closure Criteria in preliminary soil samples SS01, SS03, SS04, SS06, and SS07. Based on the laboratory analytical results, visual observations of surficial staining, and field screening results, excavation activities appeared to be warranted. Laboratory analytical results are depicted on Figure 2 and summarized in Table 1. The laboratory analytical report is included in Attachment 2.

## DELINEATION SOIL SAMPLING ACTIVITIES

On October 16, 2019 LTE personnel returned to the Site to remediate impacted soil as indicated by visual observations and laboratory analytical results from the seven preliminary soil samples. Sixteen boreholes (BH01 through BH16) were advanced via hand-auger throughout the extent of the lease road to determine vertical delineation, to a depth of approximately 1 foot and 2 feet bgs. Eight boreholes (BH17 through BH24) were advanced via hand-auger near the tank battery to a depth of approximately 2 feet bgs. Two potholes (PH01 and PH02) were advanced using a hydro-vacuum (hydrovac) at depths ranging from approximately 1 foot to 3 feet bgs. Field screening results and observations for each borehole and pothole were documented on a lithologic/soil sampling log and are included as Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The delineation soil samples, and pothole locations are depicted on Figure 3.

Delineation and remediation efforts in the pasture were postponed pending pasture disturbance approval. A Right of Entry (ROE) Permit was submitted to the New Mexico State Land Office (NMSLO) on September 18, 2019. The executed permit was received November 21, 2019. Per NMAC 19.15.29.12.B.(1), an extension for submission of a remediation plan or closure report was requested and approved on November 18, 2019, by NMOCD District I office extending the deadline to March 25, 2020.

## EXCAVATION ACTIVITIES

In general, excavation activities began a long the lease road to allow for road traffic to not be impeded. From there, excavation activities transitioned to impacts on the pad, which was divided into two excavations; one west of the open top tank and one to the east. The northern portion of the release extent was located within pasture, which required an approved ROE prior to commencing excavation activities. As such the northern pasture, which was subdivided into two due to the presence of the lease road, was generally excavated last. Excavated areas and subsequent confirmation floor and sidewall samples are depicted on Figures 4A through 4C, which segment the Site from the North (Figure 4A), Central (Figure 4B), and Southern (Figure 4C) Excavation Areas. Below is a summary of excavation activities.

### Lease Road

From October 16, 2019 through December 31, 2019, LTE personnel conducted excavation activities. Due to visual surficial staining, the lease road was excavated to a depth of approximately 0.5 feet bgs with a track-mounted backhoe and 14 confirmation floor soil samples were subsequently collected (FS01 through FS14) to confirm excavation activities met the Closure Criteria. LTE collected 5-point composite soil samples at least every 200 square feet from the sidewalls, when greater than 2 feet in depth, 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. The excavation soil samples were collected, handled, and analyzed as described above.

Laboratory analytical results indicated TPH concentrations in soil exceeded the Closure Criteria in floor samples FS02 and FS05 through FS14. Following removal of additional impacted soil 49 composite floor soil samples (FS15 through FS64) and nine composite sidewall samples (SW01 through SW09) were collected from the excavation extents, including the lease road and southern portion of the release near the tank battery.

LTE personnel returned to the Site on October 23 and October 28, 2019, to address failing composite floor samples along the lease road (FS02, FS05 through FS14). Those areas exceeding the Closure Criteria for TPH concentrations in soil were excavated to a depth ranging from approximately 1 foot to 1.5 feet bgs (FS15 through FS20, and FS23 through FS25). Analytical results indicated TPH concentrations were exceeding closure criteria in confirmation floor soil samples FS15 and FS16, which resulted in excavating deeper to a depth of approximately 3 feet bgs (FS21 and FS22). In addition, LTE completed confirmation floor samples along the lease road from April 2 through April 7, 2020. A total of 60 composite floor soil samples (FS114 through FS174) were collected within the excavation extent at depths ranging from approximately 1 foot to a maximum depth of 3 feet bgs. Based on laboratory analytical results for all existing confirmation floor soil samples, the floor throughout the excavation extent is in compliance with the Closure Criteria. Sidewall samples (SW01 through SW05) were collected at the ground surface

to the maximum depth of approximately 2 feet bgs. The locations of final excavation confirmation samples are presented on Figures 4A, 4B, and 4C.

## Well Pad

On the well pad, there were two separate excavations; the eastern excavation encompassed an area approximately 4,730 square feet in size and the western excavation encompassed an area approximately 2,755 square feet in size. A total of 24 composite floor samples (FS28 through FS53) were collected within the eastern excavation extent at depths ranging from approximately 1-foot to 1.5 feet bgs. A total of 11 floor samples (FS54 through FS64) were collected within the western excavation extent at depths ranging from approximately 0.5 feet to 1.5 feet bgs. Sidewall samples (SW06 through SW09) were collected at the ground surface to the maximum depth of 1 foot bgs as part of the western excavation. All excavation confirmation soil samples were collected, handled, and analyzed as described above. The locations of final excavation confirmation samples are presented on Figures 4C.

## Northern Pasture

From January 8, 2020 through February 18, 2020, LTE personnel returned to the Site to oversee excavation activities in the pasture. The pasture was excavated in two portions (eastern and western excavation) divided by the lease road. The eastern excavation encompassed an area approximately 3,362 square feet in size. A total of 17 composite floor soil samples (FS65 through FS81) were collected within the excavation extent at depths ranging from approximately 3 feet to 5 feet bgs. A total of 25 composite sidewall soil samples (SW10 through SW25) were collected at the ground surface to a maximum depth of approximately 4 feet bgs. The western excavation encompassed an area approximately 6,263 square feet in size. A total of 31 composite floor soil samples (FS82 through FS113) were collected within the excavation extent at depths ranging from approximately 3.5 feet to a maximum depth of 10 feet bgs. A total of 29 composite sidewall soil samples (SW26 through SW55) were collected at the ground surface to a maximum depth of approximately 4 feet bgs.

LTE personnel returned to the Site February 3 through February 18, 2020 to address failing composite floor and sidewall samples in the pasture. Composite floor soil samples FS65, FS79, and FS109 exceeded the Closure Criteria for TPH concentrations. Soil in the vicinity of composite floor soil samples FS65A, FS79A, and FS109D were excavated to a depth of approximately 4.5 feet bgs, 5 feet bgs, and 10 feet bgs, respectively. Additionally, confirmation sidewall soil samples SW11, SW13, SW16 through SW18, SW22, SW29, and SW53 through SW54 exceeded the required non-waste containing reclamation requirement in the top 4 feet. Waste-containing soil was excavated in these areas, and LTE collected confirmation soil samples from the sidewalls of the excavation extents. Laboratory analytical results indicated benzene, BTEX, TPH-GRO and TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the

reclamation requirement in excavation confirmation sidewall soil samples SW57 through SW67 at depths ranging from ground surface to approximately 4 feet bgs.

A total of 48 composite floor soil samples (FS65 through FS113) and 45 composite sidewall soil samples (SW10 through SW55) were collected from the two northern pasture excavations. Composite floor soil samples were collected at depths ranging from approximately 3 feet to 10 feet bgs and confirmation sidewall soil samples were collected at 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 locations of final excavation confirmation samples are presented on Figure 4A and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 2.

Overall, excavation of impacted soil encompassed an area of approximately 35,233 square feet on pad, along the lease road, and in the pasture to depths ranging from approximately ground surface to a maximum depth of approximately 10 feet bgs. A total of approximately 3,300 cubic yards of impacted soil was removed from the Site and transported to an approved, permitted landfarm. Photo documentation of the backfill is included as Attachment 1.

## CONCLUSIONS

Initial and follow-up response efforts as a result of the crude oil release included removal of freestanding fluid by a hydrovac truck, collection of soil samples, and excavation and removal of impacted soils as well as waste-containing soil for reclamation purposes. Preliminary soil samples were collected within and around the release extent. Preliminary soil samples SS01, SS03 through SS04, and SS06 through SS07 indicated TPH concentrations exceeded the Closure Criteria and excavation activities appeared to be warranted. Based on the analytical results, the well pad, lease road, and northern pasture areas were excavated, removing impacted and waste-containing soils from the surface to depths ranging between ground surface to a maximum of approximately 10 feet bgs. Laboratory analytical results for the final confirmation soil samples collected within the final excavation extents 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. Overall, excavation of impacted soil encompassed an area of approximately 35,233 square feet on pad, along the lease road and in the northern pasture, for a total volume of approximately 3,300 cubic yards of impacted soil removed.

Based on field activities and laboratory analytical results of confirmation samples within the release extent, XTO respectfully requests NFA for RP Number 1RP-5694 and Incident Number NRM1926954907.

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

Sincerely,
LT ENVIRONMENTAL, INC.

Kalei Jennings
Project Environmental Scientist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryan Mann, State Land Office

Appendices:

| | |
|---|---|
| Figure 1 | Site Location Map |
| Figure 2 | Preliminary Soil Sample Locations |
| Figure 3 | Delineation Soil Sample Locations |
| Figure 4A | Northern Excavation Soil Sample Locations |
| Figure 4B | Central Excavation Soil Sample Locations |
| Figure 4C | Northern Excavation Soil Sample Locations |
| Table 1 | Soil Analytical Results |
| Attachment 1 | Photographic Logs |
| Attachment 2 | Laboratory Analytical Report |
| Attachment 3 | Lithologic/Soil Sampling Logs |

FIGURES

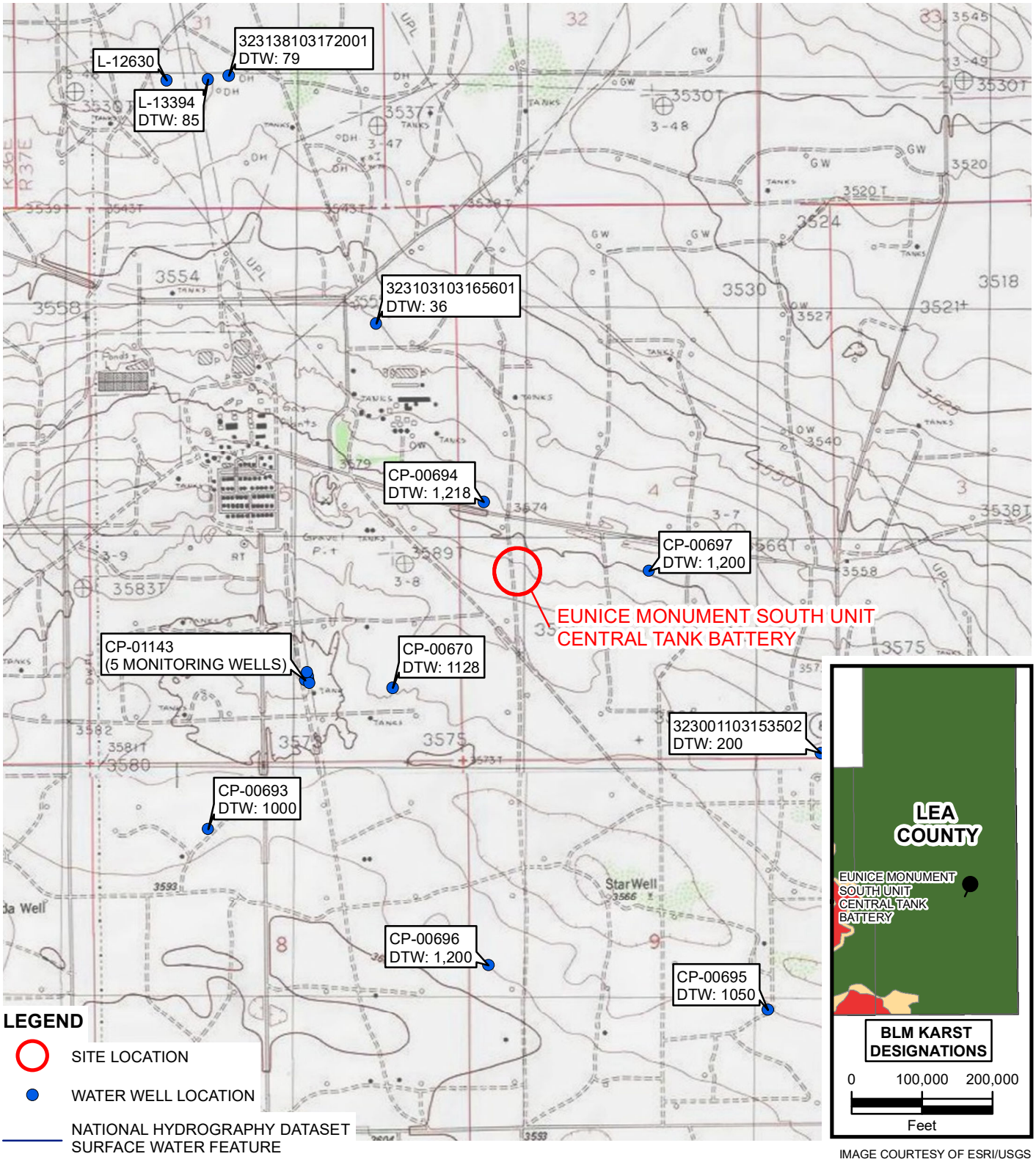
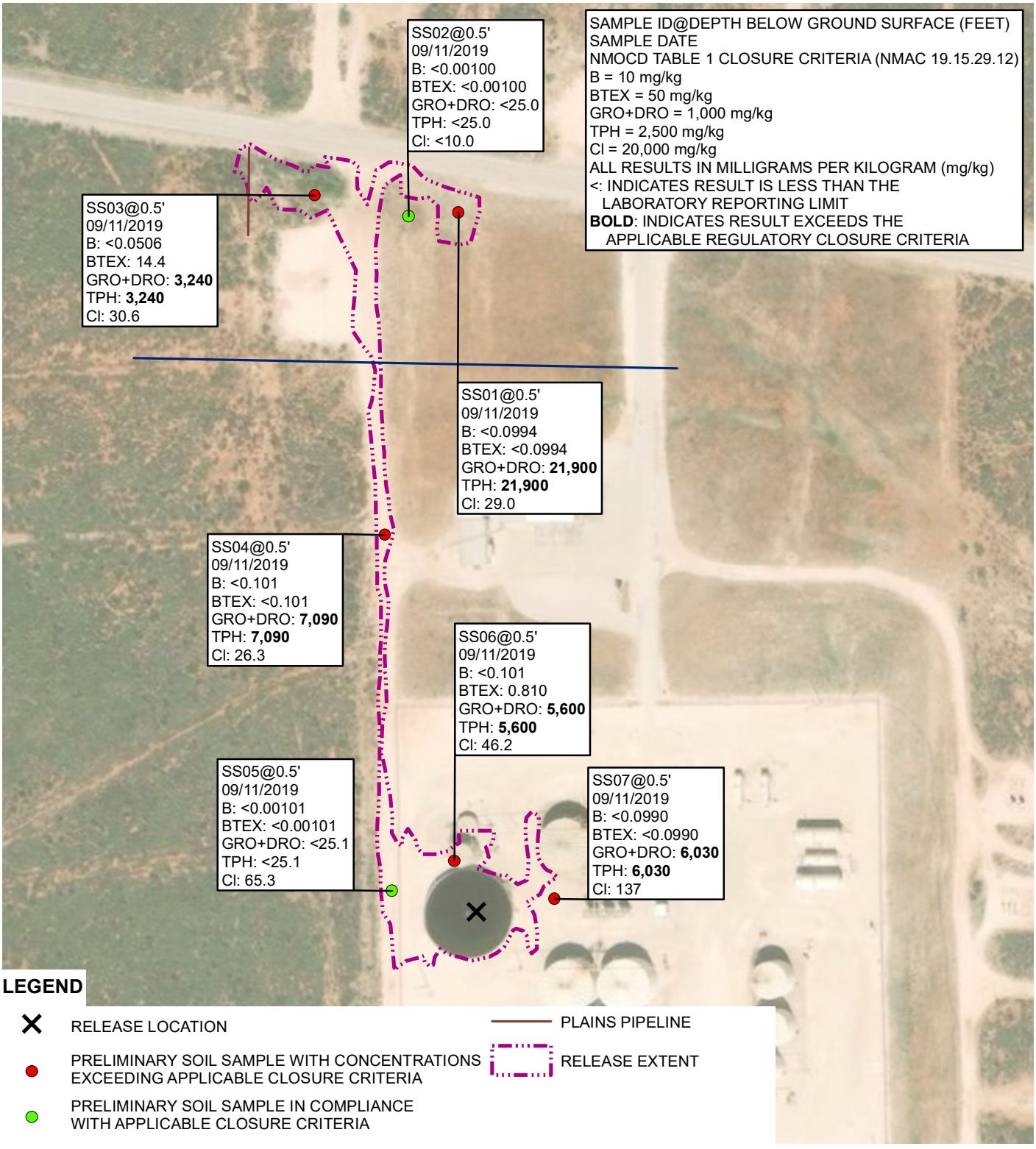



FIGURE 1
SITE LOCATION MAP
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

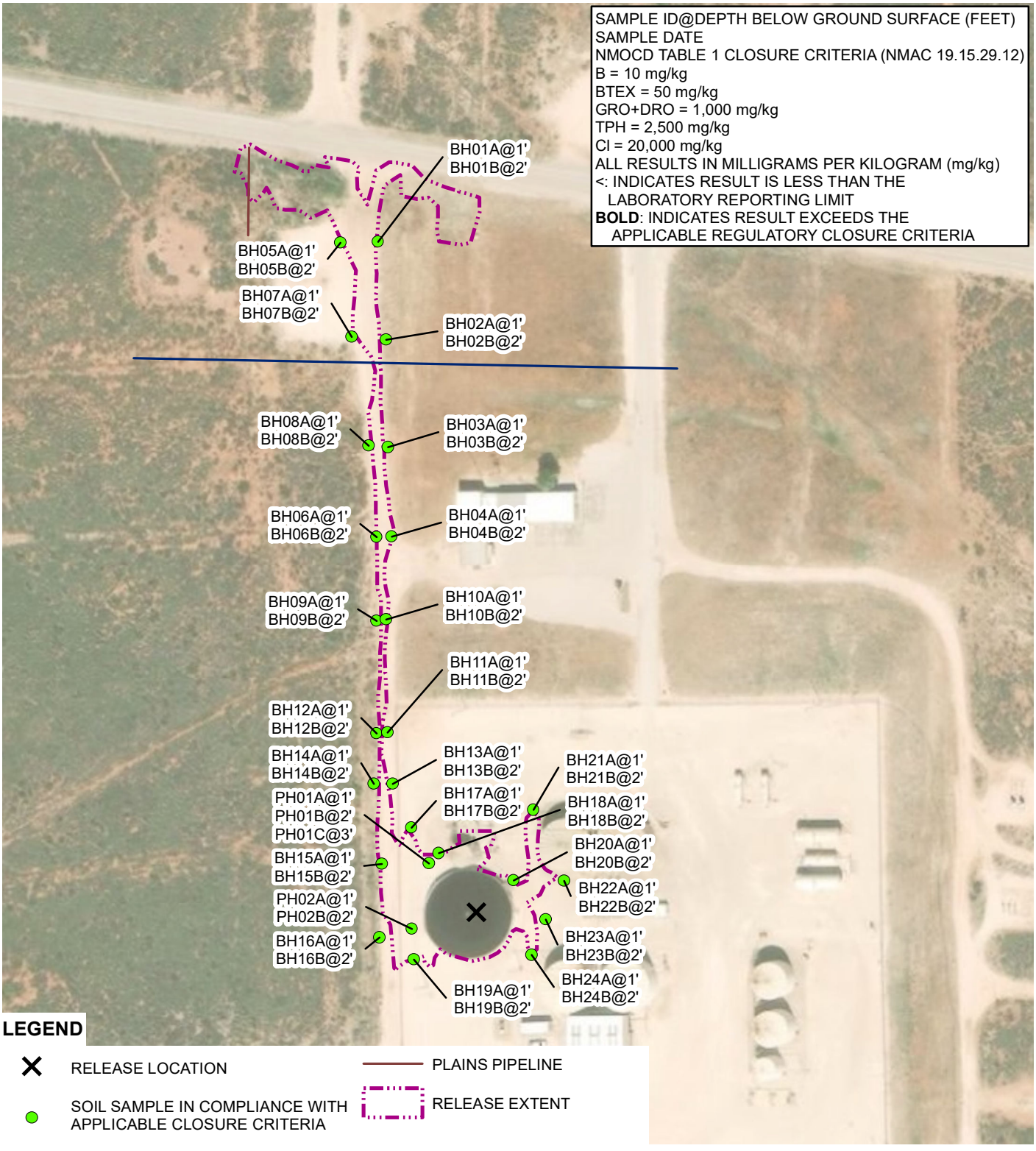
P:\XTO Energy\GIS\MXD\012919208_EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY\012919208_FIG01_SL_5694.mxd




B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5694

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

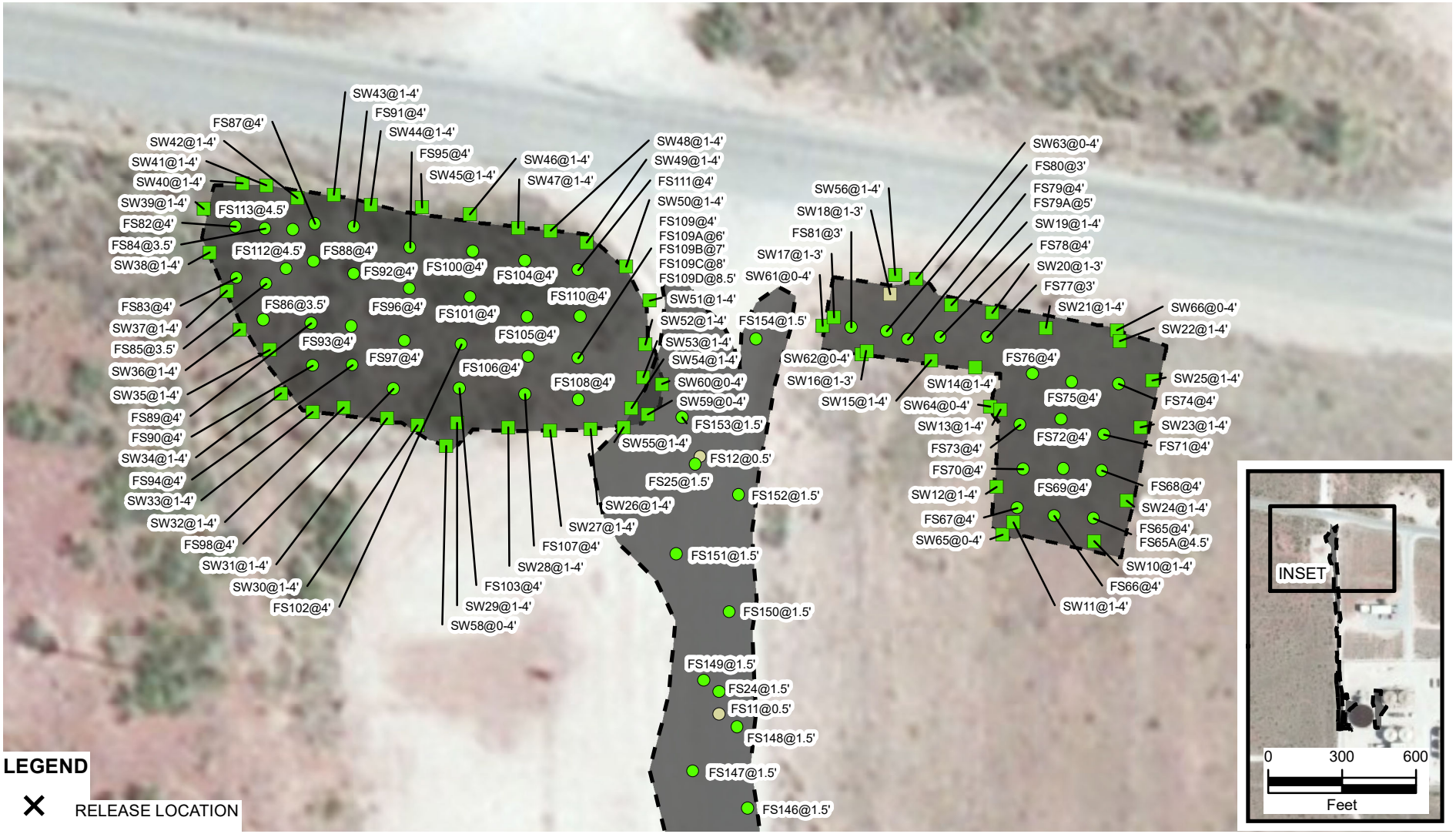
P:\XTO Energy\GIS\MXD\012919208_EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY\012919208_FIG02_PRELIMINARY_2019.mxd




B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5694

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\MXD\012919208_EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY\012919208_FIG03_DELINEATION_2019.mxd




**LEGEND**

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 1RP-5694

IMAGE COURTESY OF ESRI

0 40 80
Feet

N

FIGURE 4A
NORTHERN EXCAVATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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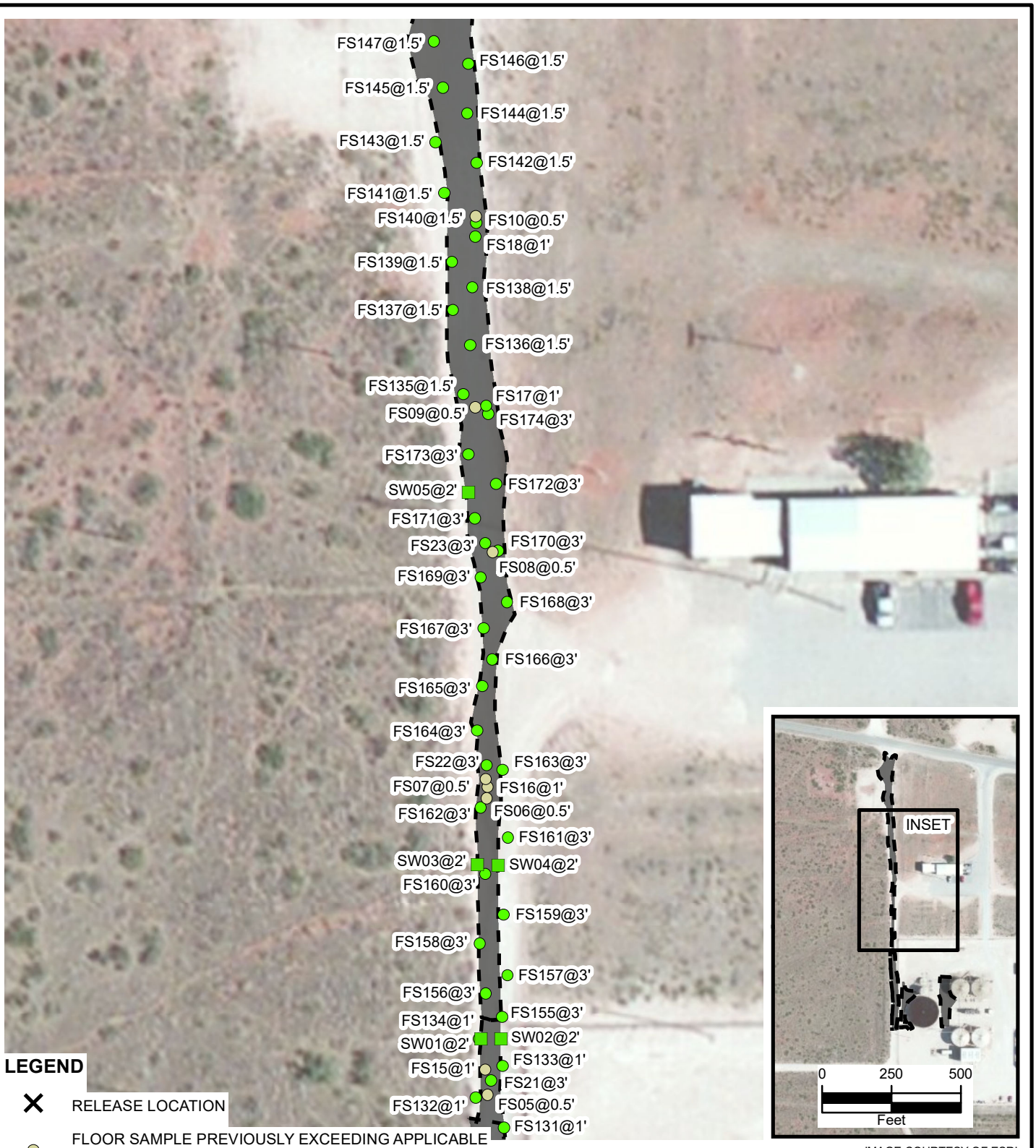


FIGURE 4B
CENTRAL EXCAVATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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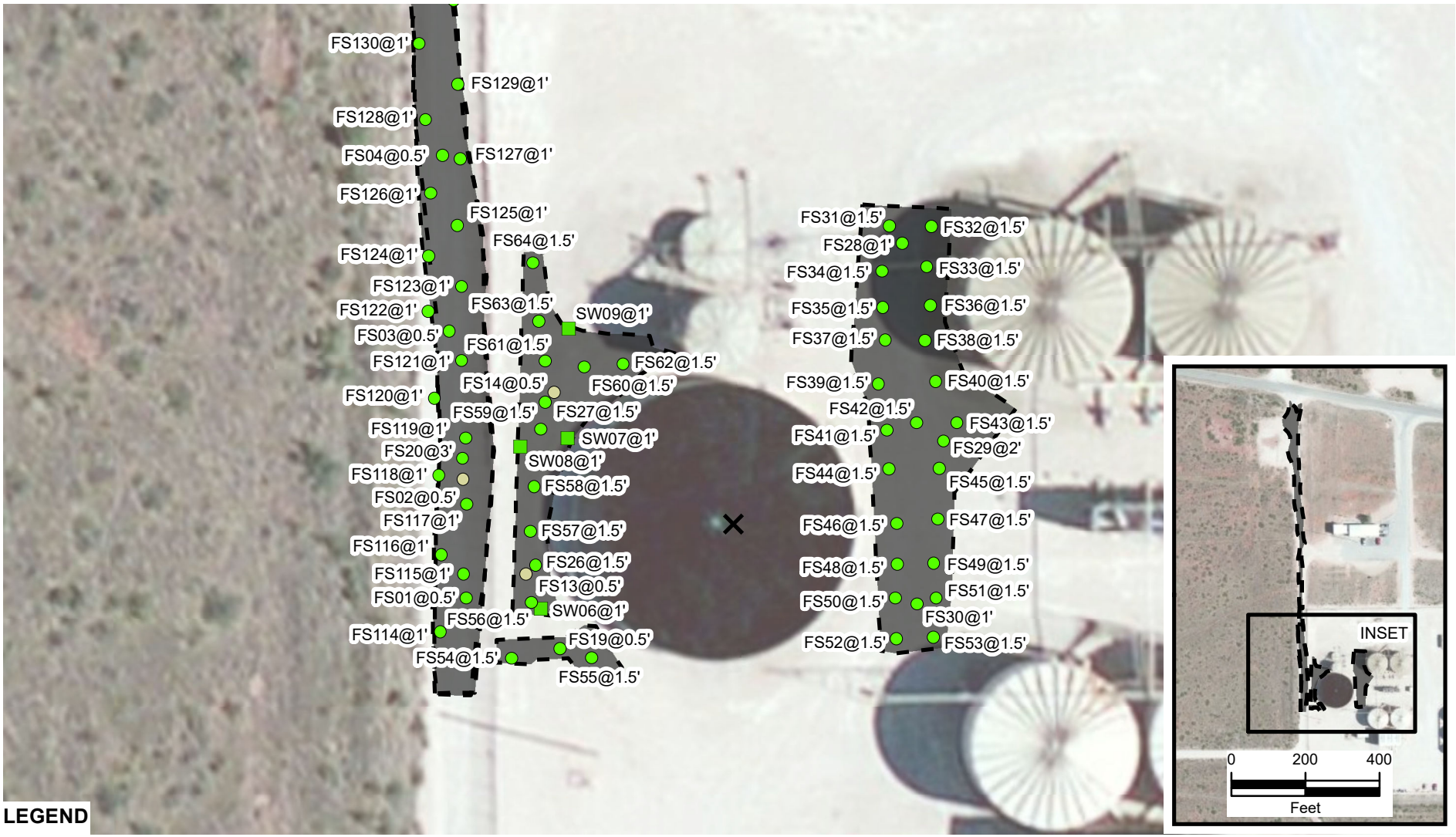


**LEGEND**

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

NOTE: REMEDIATION PERMIT NUMBER 1RP-5694

IMAGE COURTESY OF ESRI

0 50 100

Feet

N

FIGURE 4C
SOUTHERN EXCAVATION SOIL SAMPLE LOCATIONS
EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
UNIT M SEC 4 T21S R36E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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TABLES

# TABLE 1
# SOIL ANALYTICAL RESULTS

## EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
## REMEDIATION PERMIT NUMBER 1RP-5694
## LEA 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 | 09/11/2019 | <0.0994 | <0.0994 | <0.0994 | <0.0994 | <0.0994 | 2,270 | 19,600 | <501 | **21,900** | **21,900** | 29.0 |
| SS02 | 0.5 | 09/11/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 | <10.0 |
| SS03 | 0.5 | 09/11/2019 | <0.0506 | 2.60 | 2.97 | 8.85 | 14.4 | <251 | 3,240 | <251 | **3,240** | **3,240** | 30.6 |
| SS04 | 0.5 | 09/11/2019 | <0.101 | <0.101 | <0.101 | <0.101 | <0.101 | 268 | 6,820 | <251 | **7,090** | **7,090** | 26.3 |
| SS05 | 0.5 | 09/11/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 65.3 |
| SS06 | 0.5 | 09/11/2019 | <0.101 | 0.117 | 0.166 | 0.527 | 0.810 | <251 | 5,600 | <251 | **5,600** | **5,600** | 46.2 |
| SS07 | 0.5 | 09/11/2019 | <0.0990 | <0.0990 | <0.0990 | <0.0990 | <0.0990 | <250 | 6,030 | <250 | **6,030** | **6,030** | 137 |
| BH01A | 1 | 10/16/2019 | <0.000994 | 0.00527 | <0.000994 | 0.00725 | 0.0125 | <50.2 | 111 | <50.2 | 111 | 111 | <10.0 |
| BH01B | 2 | 10/16/2019 | <0.00100 | 0.00178 | <0.00100 | 0.00286 | 0.00464 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.96 |
| BH02A | 1 | 10/16/2019 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <50.3 | 57.9 | <50.3 | 57.9 | 57.9 | <10.0 |
| BH02B | 2 | 10/16/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.92 |
| BH03A | 1 | 10/16/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <50.0 | 75.9 | <50.0 | 75.9 | 75.9 | <10.0 |
| BH03B | 2 | 10/16/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.98 |
| BH04A | 1 | 10/16/2019 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| BH04B | 2 | 10/16/2019 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 14.2 |
| BH05A | 1 | 10/16/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 282 |
| BH05B | 2 | 10/16/2019 | <0.000992 | 0.00117 | <0.000992 | <0.000992 | 0.00117 | <49.8 | 544 | 159 | 544 | 703 | 77.0 |
| BH06A | 1 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| BH06B | 2 | 10/21/2019 | <0.000986 | <0.000986 | <0.000986 | <0.000986 | <0.000986 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 41.6 |
| BH07A | 1 | 10/21/2019 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 27.3 |
| BH07B | 2 | 10/21/2019 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 237 |
| BH08A | 1 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.0 |
| BH08B | 2 | 10/21/2019 | <0.000992 | <0.000992 | <0.000992 | 0.00670 | 0.00670 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 12.3 |

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# TABLE 1
# SOIL ANALYTICAL RESULTS

## EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
## REMEDIATION PERMIT NUMBER 1RP-5694
## LEA 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** |
| BH09A | 1 | 10/21/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.0 |
| BH09B | 2 | 10/21/2019 | <0.000988 | <0.000988 | <0.000988 | <0.000988 | <0.000988 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.1 |
| BH10A | 1 | 10/21/2019 | <0.000988 | <0.000988 | <0.000988 | <0.000988 | <0.000988 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 39.2 |
| BH10B | 2 | 10/21/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.0 | 71.3 | <50.0 | 71.3 | 71.3 | 224 |
| BH11A | 1 | 10/21/2019 | <0.000986 | <0.000986 | <0.000986 | 0.00207 | 0.00207 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 15.6 |
| BH11B | 2 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.1 | 56.8 | <50.1 | 56.8 | 56.8 | 10.2 |
| BH12A | 1 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | 0.00139 | 0.00139 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.88 |
| BH12B | 2 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.94 |
| BH13A | 1 | 10/21/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 39.0 |
| BH13B | 2 | 10/21/2019 | <0.000986 | <0.000986 | <0.000986 | <0.000986 | <0.000986 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 35.8 |
| BH14A | 1 | 10/21/2019 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <50.0 | 174 | <50.0 | 174 | 174 | <9.92 |
| BH14B | 2 | 10/21/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <50.2 | 74.8 | <50.2 | 74.8 | 74.8 | 34.3 |
| BH15A | 1 | 10/22/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | 595 | 75.4 | 595 | 670 | 29.2 |
| BH15B | 2 | 10/22/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 13.5 |
| BH16A | 1 | 10/22/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 12.2 |
| BH16B | 2 | 10/22/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 11.2 |
| BH17A | 1 | 11/04/2019 | <0.00943 | <0.00943 | <0.00943 | <0.00943 | <0.00943 | <49.8 | 160 | <49.8 | 160 | 160 | 357 |
| BH17B | 2 | 11/04/2019 | <0.000996 | <0.000996 | <0.000996 | 0.0152 | 0.0152 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 111 |
| BH18A | 1 | 11/04/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 486 |
| BH18B | 2 | 11/04/2019 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 62.9 |
| BH19A | 1 | 11/04/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 480 |
| BH19B | 2 | 11/04/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 40.8 |
| BH20A | 1 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.1 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| BH20B | 2 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.98 |
| BH21A | 1 | 11/12/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 40.9 |
| BH21B | 2 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 44.8 |
| BH22A | 1 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 178 |
| BH22B | 2 | 11/12/2019 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 382 |
| BH23A | 1 | 11/12/2019 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.92 |
| BH23B | 2 | 11/12/2019 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <0.000998 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.98 |
| BH24A | 1 | 11/12/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.88 |
| BH24B | 2 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| BH25 | 1 | 01/20/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.3 | 182 | <50.3 | 182 | 182 | <9.92 |
| BH25A | 4 | 01/20/2020 | <0.0213 | <0.0213 | <0.0213 | <0.0213 | <0.0213 | <50.1 | 154 | <50.1 | 154 | 154 | 14.6 |
| PH01A | 1 | 10/29/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | 324 | <49.9 | 324 | 324 | 655 |
| PH01B | 2 | 10/29/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.4 | 73.2 | <50.4 | 73.2 | 73.2 | 170 |
| PH01C | 3 | 10/29/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 118 |
| PH02A | 1 | 10/29/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 282 |
| PH02B | 2 | 10/29/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 205 |
| FS01 | 0.5 | 10/16/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 17.7 |
| FS02 | 0.5 | 10/16/2019 | <0.0101 | <0.0101 | <0.0101 | <0.0101 | <0.0101 | <50.2 | 1,290 | 136 | **1,290** | 1,430 | 43.1 |
| FS03 | 0.5 | 10/16/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 80.6 |
| FS04 | 0.5 | 10/16/2019 | <0.00100 | <0.00100 | <0.00100 | 0.00381 | 0.00381 | <50.2 | 101 | <50.2 | 101 | 101 | 19.1 |
| FS05 | 0.5 | 10/16/2019 | <0.0100 | <0.0100 | 0.0337 | 0.130 | 0.163 | 53.6 | 2,840 | 327 | **2,890** | **3,220** | 50.8 |
| FS06 | 0.5 | 10/16/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <50.0 | 1,440 | 145 | **1,440** | 1,590 | 16.3 |
| FS07 | 0.5 | 10/16/2019 | <0.100 | 0.522 | 1.92 | 7.35 | 9.79 | 601 | 8,640 | 794 | **9,240** | **10,000** | <10.0 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS08 | 0.5 | 10/16/2019 | <0.00990 | <0.00990 | 0.0561 | 0.267 | 0.324 | 64.0 | 1,530 | 170 | **1,590** | 1,760 | 36.9 |
| FS09 | 0.5 | 10/21/2019 | <0.00101 | <0.00101 | <0.00101 | 0.00617 | 0.00617 | <50.3 | 3,350 | 396 | **3,350** | **3,750** | 42.9 |
| FS10 | 0.5 | 10/21/2019 | <0.00990 | <0.00990 | 0.0141 | 0.0380 | 0.0521 | <50.0 | 2,510 | 269 | **2,510** | **2,780** | <10.0 |
| FS11 | 0.5 | 10/21/2019 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.1 | 1,120 | 152 | **1,120** | 1,270 | 49.2 |
| FS12 | 0.5 | 10/21/2019 | <0.000998 | <0.000998 | <0.000998 | 0.00228 | 0.00228 | <49.9 | 2,010 | 267 | **2,010** | 2,280 | 41.4 |
| FS13 | 0.5 | 10/23/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.3 | 2,830 | 325 | **2,830** | **3,160** | 716 |
| FS14 | 0.5 | 10/23/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | 2,850 | 372 | **2,850** | **3,220** | 368 |
| FS15 | 1 | 10/23/2019 | <0.100 | <0.100 | 0.258 | 0.641 | 0.899 | <250 | 5,010 | 690 | **5,010** | **5,700** | 11.0 |
| FS16 | 1 | 10/23/2019 | 0.00162 | 0.0237 | 0.0737 | 0.211 | 0.310 | 93.2 | 1,700 | 192 | **1,790** | 1,990 | 48.9 |
| FS17 | 1 | 10/23/2019 | <0.00101 | <0.00101 | <0.00101 | 0.00840 | 0.00840 | <50.3 | 78.7 | <50.3 | 78.7 | 78.7 | 28.2 |
| FS18 | 1 | 10/23/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.1 | 51.0 | <50.1 | 51.0 | 51.0 | 29.9 |
| FS19 | 0.5 | 10/23/2019 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <50.1 | 754 | 102 | 754 | 856 | 218 |
| FS20 | 3 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| FS21 | 3 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 16.6 |
| FS22 | 3 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 130 |
| FS23 | 3 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 294 |
| FS24 | 1.5 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 116 |
| FS25 | 1.5 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 76.6 |
| FS26 | 1.5 | 10/30/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 324 |
| FS27 | 1.5 | 10/30/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 231 |
| FS28 | 1 | 11/12/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.1 |
| FS29 | 2 | 11/12/2019 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <0.000992 | <50.3 | 533 | 57.5 | 533 | 591 | 38.6 |
| FS30 | 1 | 11/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | 86.0 | <49.9 | 86.0 | 86.0 | 57.4 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS31 | 1.5 | 12/30/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 14.2 |
| FS32 | 1.5 | 12/30/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <9.92 |
| FS33 | 1.5 | 12/30/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | 54.6 | <49.9 | 54.6 | 54.6 | <9.98 |
| FS34 | 1.5 | 12/30/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.96 |
| FS35 | 1.5 | 12/30/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 10.3 |
| FS36 | 1.5 | 12/30/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.92 |
| FS37 | 1.5 | 12/30/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 22.8 |
| FS38 | 1.5 | 12/30/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 13.4 |
| FS39 | 1.5 | 12/30/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 46.2 |
| FS40 | 1.5 | 12/30/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 13.6 |
| FS41 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | 65.6 | <50.2 | 65.6 | 65.6 | 110 |
| FS42 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 31.3 |
| FS43 | 1.5 | 12/31/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 116 |
| FS44 | 1.5 | 12/31/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | 57.3 | <50.2 | 57.3 | 57.3 | 286 |
| FS45 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 108 |
| FS46 | 1.5 | 12/31/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 74.6 |
| FS47 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 840 |
| FS48 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 33.6 |
| FS49 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 11.0 |
| FS50 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 16.9 |
| FS51 | 1.5 | 12/31/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.0 |
| FS52 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 14.0 |
| FS53 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 16.6 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS54 | 0.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 54.0 | <50.0 | 54.0 | 54.0 | 21.3 |
| FS55 | 0.5 | 12/31/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.3 | 111 | <50.3 | 111 | 111 | 16.5 |
| FS56 | 1.5 | 12/31/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 41.5 |
| FS57 | 1.5 | 12/31/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | 97.4 | <50.3 | 97.4 | 97.4 | 61.2 |
| FS58 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 90.6 |
| FS59 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | 75.6 | <50.2 | 75.6 | 75.6 | 134 |
| FS60 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | 117 | <50.1 | 117 | 117 | 134 |
| FS61 | 1.5 | 12/31/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 36.1 |
| FS62 | 1.5 | 12/31/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 33.6 |
| FS63 | 1.5 | 12/31/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | 97.1 | <50.0 | 97.1 | 97.1 | 309 |
| FS64 | 1.5 | 12/31/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 82.1 |
| FS65 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 1,470 | 158 | **1,470** | 1,630 | <9.98 |
| FS65A | 4.5 | 01/20/2020 | <0.00199 | <0.00199 | <0.00199 | 0.00744 | 0.00744 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 10.6 |
| FS66 | 4 | 01/08/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 53.1 | <50.0 | 53.1 | 53.1 | <9.94 |
| FS67 | 4 | 01/08/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 11.7 |
| FS68 | 4 | 01/08/2020 | <0.0192 | <0.0192 | <0.0192 | <0.0192 | <0.0192 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.88 |
| FS69 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | 323 | <50.0 | 323 | 323 | <9.92 |
| FS70 | 4 | 01/08/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | 65.7 | <50.0 | 65.7 | 65.7 | 12.0 |
| FS71 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.2 | 642 | 75.1 | 642 | 717 | <10.1 |
| FS72 | 4 | 01/08/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.9 | 88.7 | <49.9 | 88.7 | 88.7 | <10.1 |
| FS73 | 4 | 01/08/2020 | <0.00200 | 0.00295 | <0.00200 | <0.00200 | 0.00295 | <50.2 | 181 | <50.2 | 181 | 181 | <10.1 |
| FS74 | 4 | 01/08/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.80 |
| FS75 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | 671 | 76.6 | 671 | 748 | 13.6 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS76 | 4 | 01/08/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | 929 | 90.3 | 929 | 1,020 | 12.1 |
| FS77 | 3 | 01/08/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.0 |
| FS78 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 10.5 |
| FS79 | 4 | 01/08/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 5,350 | 625 | **5,350** | **5,980** | 22.2 |
| FS79A | 5 | 01/20/2020 | <0.0208 | <0.0208 | <0.0208 | <0.0208 | <0.0208 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 12.2 |
| FS80 | 3 | 01/08/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 16.1 |
| FS81 | 3 | 01/08/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | 95.0 | <50.0 | 95.0 | 95.0 | 14.5 |
| FS82 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.98 |
| FS83 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 11.1 |
| FS84 | 3.5 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | 110 | <50.2 | 110 | 110 | <9.94 |
| FS85 | 3.5 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.1 | 124 | <50.1 | 124 | 124 | <10.0 |
| FS86 | 3.5 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | 81.1 | <50.2 | 81.1 | 81.1 | <10.1 |
| FS87 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 15.3 |
| FS88 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | 136 | <50.1 | 136 | 136 | 27.1 |
| FS89 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 144 |
| FS90 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 105 |
| FS91 | 4 | 01/10/2020 | <0.0198 | <0.0198 | <0.0198 | <0.0198 | <0.0198 | <50.0 | 501 | 51.0 | 501 | 552 | 57.4 |
| FS92 | 4 | 01/10/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 21.9 |
| FS93 | 4 | 01/10/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.3 | 137 | <50.3 | 137 | 137 | 113 |
| FS94 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 305 |
| FS95 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 28.1 |
| FS96 | 4 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.90 |
| FS97 | 4 | 01/10/2020 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.1 | 626 | 70.7 | 626 | 697 | 11.3 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS98 | 4 | 01/10/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <49.8 | 388 | <49.8 | 388 | 388 | 33.6 |
| FS99 | 4 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | 118 | <50.2 | 118 | 118 | <9.98 |
| FS100 | 4 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 10.4 |
| FS101 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 9.98 |
| FS102 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.96 |
| FS103 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | 224 | <49.8 | 224 | 224 | 41.0 |
| FS104 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 144 | <50.0 | 144 | 144 | 39.9 |
| FS105 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | 76.4 | <50.3 | 76.4 | 76.4 | 25.5 |
| FS106 | 4 | 01/10/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | 52.1 | <50.3 | 52.1 | 52.1 | 19.7 |
| FS107 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | 86.0 | <50.1 | 86.0 | 86.0 | 17.2 |
| FS108 | 4 | 01/10/2020 | <0.0200 | <0.0200 | <0.0200 | 0.0969 | 0.0969 | <50.1 | 368 | 65.5 | 368 | 434 | 24.4 |
| FS109 | 4 | 01/10/2020 | <0.0202 | <0.0202 | 0.0772 | 0.166 | 0.243 | 392 | 3,230 | 318 | **3,620** | **3,940** | 44.4 |
| FS109A | 6 | 01/20/2020 | <0.0208 | <0.0208 | <0.0208 | <0.0208 | <0.0208 | <50.3 | 2,950 | 385 | **2,950** | **3,340** | <9.92 |
| FS109B | 7 | 01/20/2020 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.2 | 1,560 | 229 | **1,560** | 1,790 | 16.1 |
| FS109C | 8 | 01/20/2020 | <0.0196 | <0.0196 | 0.0570 | 0.128 | 0.185 | 65.5 | 1,610 | 222 | **1,680** | 1,900 | 12.9 |
| FS109D | 10 | 02/03/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | 433 | 98.8 | 433 | 532 | 27.7 |
| FS110 | 4 | 01/10/2020 | <0.00198 | <0.00198 | <0.00198 | 0.00433 | 0.00433 | <50.2 | 172 | <50.2 | 172 | 172 | 17.5 |
| FS111 | 4 | 01/10/2020 | <0.00200 | <0.00200 | <0.00200 | 0.0107 | 0.0107 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 77.4 |
| FS112 | 4.5 | 02/12/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 10.1 |
| FS113 | 4.5 | 02/12/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.1 |
| FS114 | 1 | 04/02/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <4.99 |
| FS115 | 1 | 04/02/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <5.00 |
| FS116 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <5.05 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS117 | 1 | 04/02/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 5.93 |
| FS118 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 11.5 |
| FS119 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 31.5 |
| FS120 | 1 | 04/02/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <5.02 |
| FS121 | 1 | 04/02/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | 89.9 | <50.0 | 89.9 | 89.9 | 28.7 |
| FS122 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <5.01 |
| FS123 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | 65.0 | <49.9 | 65.0 | 65.0 | 68.7 |
| FS124 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 36.7 |
| FS125 | 1 | 04/02/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.9 | 50.1 | <49.9 | 50.1 | 50.1 | 51.9 |
| FS126 | 1 | 04/02/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | 72.2 | <49.9 | 72.2 | 72.2 | 62.2 |
| FS127 | 1 | 04/02/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 23.9 |
| FS128 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <4.97 |
| FS129 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 39.8 |
| FS130 | 1 | 04/02/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | 211 | <50.0 | 211 | 211 | <5.02 |
| FS131 | 1 | 04/02/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 16.5 |
| FS132 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <5.00 |
| FS133 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 70.0 |
| FS134 | 1 | 04/02/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 57.2 |
| FS135 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 81.7 |
| FS136 | 1.5 | 04/03/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | 170 | <50.0 | 170 | 170 | 49.4 |
| FS137 | 1.5 | 04/03/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 77.9 |
| FS138 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | 307 | <49.9 | 307 | 307 | 52.2 |
| FS139 | 1.5 | 04/03/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | 69.2 | <50.0 | 69.2 | 69.2 | 100 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| FS140 | 1.5 | 04/03/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 123 |
| FS141 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | 81.2 | <49.8 | 81.2 | 81.2 | 200 |
| FS142 | 1.5 | 04/03/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 149 |
| FS143 | 1.5 | 04/03/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 47.8 |
| FS144 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 136 | <50.0 | 136 | 136 | 26.0 |
| FS145 | 1.5 | 04/03/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 27.5 |
| FS146 | 1.5 | 04/03/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 35.5 |
| FS147 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 25.3 |
| FS148 | 1.5 | 04/03/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 15.8 |
| FS149 | 1.5 | 04/03/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 20.4 |
| FS150 | 1.5 | 04/03/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 38.4 |
| FS151 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 59.6 |
| FS152 | 1.5 | 04/03/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 70.0 |
| FS153 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | 110 | 50 | 110 | 160 | <4.96 |
| FS154 | 1.5 | 04/03/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 130 | <50.0 | 130 | 130 | <5.00 |
| FS155 | 3.0 | 04/06/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <4.99 |
| FS156 | 3.0 | 04/06/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 239 |
| FS157 | 3.0 | 04/06/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 12.7 |
| FS158 | 3.0 | 04/06/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 274 |
| FS159 | 3.0 | 04/06/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 7.81 |
| FS160 | 3.0 | 04/06/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 42.6 |
| FS161 | 3.0 | 04/06/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 113 |
| FS162 | 3.0 | 04/06/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 20.1 |

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# TABLE 1
# SOIL ANALYTICAL RESULTS

## EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
## REMEDIATION PERMIT NUMBER 1RP-5694
## LEA 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** |
| FS163 | 3.0 | 04/06/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 8.36 |
| FS164 | 3.0 | 04/06/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <5.04 |
| FS165 | 3.0 | 04/07/2020 | <0.00100 | <0.00500 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 152 |
| FS166 | 3.0 | 04/07/2020 | <0.00100 | <0.00500 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 209 |
| FS167 | 3.0 | 04/07/2020 | <0.000992 | <0.00496 | <0.000992 | <0.000992 | <0.000992 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 205 |
| FS168 | 3.0 | 04/07/2020 | <0.00100 | <0.00500 | <0.00100 | <0.00100 | <0.00100 | <50.0 | 281 | <50.0 | 281 | 281 | 117 |
| FS169 | 3.0 | 04/07/2020 | <0.000990 | <0.00495 | <0.000990 | <0.000990 | <0.000990 | <49.9 | 75.4 | <49.9 | 75.4 | 75.4 | 151 |
| FS170 | 3.0 | 04/07/2020 | <0.000994 | <0.00497 | <0.000994 | <0.000994 | <0.000994 | <50.0 | 153 | <50.0 | 153 | 153 | 131 |
| FS171 | 3.0 | 04/07/2020 | <0.00100 | <0.00500 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 191 |
| FS172 | 3.0 | 04/07/2020 | <0.000990 | <0.00495 | <0.000990 | <0.000990 | <0.000990 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 206 |
| FS173 | 3.0 | 04/07/2020 | <0.000992 | <0.00496 | <0.000992 | <0.000992 | <0.000992 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 170 |
| FS174 | 3.0 | 04/07/2020 | <0.00100 | <0.00500 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 121 |
| SW01 | 2 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <10.1 |
| SW02 | 2 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 13.0 |
| SW03 | 2 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.8 | 55.3 | <49.8 | 55.3 | 55.3 | 78.2 |
| SW04 | 2 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 36.1 |
| SW05 | 2 | 10/28/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <49.8 | 75.3 | <49.8 | 75.3 | 75.3 | 65.1 |
| SW06 | 1 | 10/30/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <49.8 | 714 | 87.3 | 714 | 801 | 16.6 |
| SW07 | 1 | 10/30/2019 | <0.000998 | 0.00623 | 0.00275 | 0.00724 | 0.0162 | <50.1 | 82.0 | <50.1 | 82.0 | 82.0 | 44.0 |
| SW08 | 1 | 10/30/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <50.3 | 894 | 109 | 894 | 1,000 | 430 |
| SW09 | 1 | 10/30/2019 | <0.00100 | 0.00211 | 0.00895 | 0.0110 | 0.0221 | <49.9 | 201 | <49.9 | 201 | 201 | 288 |
| SW10 | 1 - 4 | 01/09/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | 57.5 | <50.0 | 57.5 | 57.5 | <9.98 |
| SW11 | 1 - 4 | 01/09/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 117 | <49.9 | 117 | 117 | <9.98 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| SW12 | 1 - 4 | 01/09/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.92 |
| SW13 | 1 - 4 | 01/09/2020 | <0.0201 | <0.0201 | <0.0201 | <0.0201 | <0.0201 | <49.9 | 372 | 56.8 | 372 | 429 | <10.0 |
| SW14 | 1 - 4 | 01/09/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.98 |
| SW15 | 1 - 4 | 01/09/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 10.4 |
| SW16 | 1 - 3 | 01/09/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 491 | 88.9 | 491 | 580 | 10.2 |
| SW17 | 1 - 3 | 01/09/2020 | <0.0196 | <0.0196 | <0.0196 | <0.0196 | <0.0196 | <50.0 | 190 | <50.0 | 190 | 190 | 15.7 |
| SW18 | 1 - 3 | 01/09/2020 | <0.00200 | <0.00200 | 0.00230 | <0.00200 | 0.00230 | <49.9 | 1,420 | 254 | **1,420** | 1,670 | <9.94 |
| SW19 | 1 - 4 | 01/09/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.98 |
| SW20 | 1 - 3 | 01/09/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 64.4 | <50.0 | 64.4 | 64.4 | <10.1 |
| SW21 | 1 - 4 | 01/09/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 50.2 | <49.9 | 50.2 | 50.2 | <10.0 |
| SW22 | 1 - 4 | 01/09/2020 | <0.0196 | <0.0196 | <0.0196 | <0.0196 | <0.0196 | <50.0 | 223 | <50.0 | 223 | 223 | <10.1 |
| SW23 | 1 - 4 | 01/09/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.1 |
| SW24 | 1 - 4 | 01/09/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.92 |
| SW25 | 1 - 4 | 01/09/2020 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.0 | 56.4 | <50.0 | 56.4 | 56.4 | <9.98 |
| SW26 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.98 |
| SW27 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| SW28 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <10.0 |
| SW29 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | 302 | <50.1 | 302 | 302 | 16.1 |
| SW30 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | 0.0114 | 0.0114 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.94 |
| SW31 | 1 - 4 | 01/14/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.92 |
| SW32 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.98 |
| SW33 | 1 - 4 | 01/14/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |
| SW34 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.0 |

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**TABLE 1**
**SOIL ANALYTICAL RESULTS**

**EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY**
**REMEDIATION PERMIT NUMBER 1RP-5694**
**LEA 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** |
| SW35 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <10.0 |
| SW36 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.1 |
| SW37 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.98 |
| SW38 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.98 |
| SW39 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <9.94 |
| SW40 | 1 - 4 | 01/14/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.98 |
| SW41 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.0 |
| SW42 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.0 |
| SW43 | 1 - 4 | 01/14/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.92 |
| SW44 | 1 - 4 | 01/14/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.88 |
| SW45 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.88 |
| SW46 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.92 |
| SW47 | 1 - 4 | 01/14/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.88 |
| SW48 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | <9.88 |
| SW49 | 1 - 4 | 01/14/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.98 |
| SW50 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.96 |
| SW51 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 10.3 |
| SW52 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | 62.2 | <50.2 | 62.2 | 62.2 | 23.9 |
| SW53 | 1 - 4 | 01/14/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | 102 | <49.9 | 102 | 102 | 33.0 |
| SW54 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | 0.00234 | <0.00200 | 0.00234 | <50.2 | 874 | 136 | 874 | 1,010 | 19.3 |
| SW55 | 1 - 4 | 01/14/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | 61.9 | <50.1 | 61.9 | 61.9 | 23.7 |
| SW57 | 1 - 4 | 02/03/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | 273 | 56.6 | 273 | 330 | 11.1 |
| SW58 | 0 - 4 | 02/12/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <10.0 |

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# TABLE 1
# SOIL ANALYTICAL RESULTS

## EUNICE MONUMENT SOUTH UNIT CENTRAL TANK BATTERY
## REMEDIATION PERMIT NUMBER 1RP-5694
## LEA 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** |
| SW59 | 0 - 4 | 02/12/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | 52.4 | <50.2 | 52.4 | 52.4 | 18.8 |
| SW60 | 0 - 4 | 02/12/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.3 | 77.1 | <50.3 | 77.1 | 77.1 | 47.3 |
| SW61 | 0 - 4 | 02/12/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.98 |
| SW62 | 0 - 4 | 02/12/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.3 | 366 | <50.3 | 366 | 366 | <9.92 |
| SW63 | 0 - 4 | 02/12/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | 54.3 | <50.0 | 54.3 | 54.3 | <9.98 |
| SW64 | 0 - 4 | 02/12/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.92 |
| SW65 | 0 - 4 | 02/12/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <10.1 |
| SW66 | 0 - 4 | 02/12/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <10.0 |
| SW67 | 0 - 4 | 02/18/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 8.32 |

**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

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

NE - not established

Text indicates removal of impacted soil

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# ATTACHMENT 1: PHOTOGRAPHIC LOGS

# PHOTOGRAPHIC LOG

**Photograph 1:** Release extent showing lease road and pad facing East.

**Photograph 2:** Northern view of surficial staining of lease road.

**Photograph 3:** Pasture view of release extent facing West.

**Photograph 4:** Pasture view of release extent facing North.

Eunice Monument South Unit Central Tank Battery
32.507902, -103.276319
Photographs Taken: September 11, 2019 through February 18, 2020



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PHOTOGRAPHIC LOG

**Photograph 5:** Northern road excavation facing South.

**Photograph 6:** Eastern pasture excavation facing South.

**Photograph 7:** Western pad excavation extent facing South.

**Photograph 8:** Western pasture excavation facing Northeast.



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# BACKFILL PHOTOGRAPHIC LOG

**Photograph 1:** Western view of backfill off-pad in pasture.

**Photograph 2:** Eastern view of backfill off-pad in pasture.

**Photograph 3:** View of backfill along lease road.

**Photograph 4** View of backfill along lease road near tank battery.

**Photograph 5:** View of backfill along lease road near pasture.

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# ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

# Analytical Report 636644

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**16-SEP-19**

Collected By: Client

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

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

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

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

16-SEP-19

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

Reference: XENCO Report No(s): **636644**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 636644. 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. 636644 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS01 | S | 09-11-19 12:24 | 0.5 ft | 636644-001 |
| SS02 | S | 09-11-19 12:26 | 0.5 ft | 636644-002 |
| SS03 | S | 09-11-19 12:28 | 0.5 ft | 636644-003 |
| SS04 | S | 09-11-19 12:29 | 0.5 ft | 636644-004 |
| SS05 | S | 09-11-19 12:31 | 0.5 ft | 636644-005 |
| SS06 | S | 09-11-19 12:32 | 0.5 ft | 636644-006 |
| SS07 | S | 09-11-19 12:33 | 0.5 ft | 636644-007 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *636644*

Report Date: *16-SEP-19*
Date Received: *09/12/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3101373 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected.
Samples affected are 636644-004.

Batch: LBA-3101467 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 636644

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Thu Sep-12-19 08:45 am
**Report Date:** 16-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 636644-001 | | 636644-002 | | 636644-003 | | 636644-004 | | 636644-005 | | 636644-006 | |
| | ***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:*** | Sep-11-19 12:24 | | Sep-11-19 12:26 | | Sep-11-19 12:28 | | Sep-11-19 12:29 | | Sep-11-19 12:31 | | Sep-11-19 12:32 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Sep-13-19 10:09 | | Sep-13-19 10:09 | | Sep-13-19 10:09 | | Sep-13-19 10:09 | | Sep-13-19 10:09 | | Sep-13-19 10:09 | |
| | ***Analyzed:*** | Sep-13-19 16:49 | | Sep-13-19 13:52 | | Sep-13-19 15:30 | | Sep-13-19 15:50 | | Sep-13-19 15:10 | | Sep-13-19 16:09 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | <0.0506 | 0.0506 | <0.101 | 0.101 | <0.00101 | 0.00101 | <0.101 | 0.101 |
| Toluene | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | 2.60 | 0.506 | <0.101 | 0.101 | <0.00101 | 0.00101 | 0.117 | 0.101 |
| Ethylbenzene | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | 2.97 | 0.506 | <0.101 | 0.101 | <0.00101 | 0.00101 | 0.166 | 0.101 |
| m,p-Xylenes | | <0.199 | 0.199 | <0.00201 | 0.00201 | 6.43 | 1.01 | <0.202 | 0.202 | <0.00201 | 0.00201 | 0.401 | 0.201 |
| o-Xylene | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | 2.42 | 0.506 | <0.101 | 0.101 | <0.00101 | 0.00101 | 0.126 | 0.101 |
| Total Xylenes | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | 8.85 | 0.506 | <0.101 | 0.101 | <0.00101 | 0.00101 | 0.527 | 0.101 |
| Total BTEX | | <0.0994 | 0.0994 | <0.00100 | 0.00100 | 14.4 | 0.0506 | <0.101 | 0.101 | <0.00101 | 0.00101 | 0.810 | 0.101 |
| **Chloride by EPA 300** | ***Extracted:*** | Sep-12-19 11:09 | | Sep-12-19 11:09 | | Sep-12-19 11:09 | | Sep-12-19 11:09 | | Sep-12-19 11:09 | | Sep-12-19 11:09 | |
| | ***Analyzed:*** | Sep-12-19 13:17 | | Sep-12-19 13:37 | | Sep-12-19 13:43 | | Sep-12-19 13:50 | | Sep-12-19 13:56 | | Sep-12-19 14:15 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 29.0 | 9.98 | <10.0 | 10.0 | 30.6 | 10.0 | 26.3 | 10.1 | 65.3 | 10.0 | 46.2 | 10.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Sep-12-19 13:00 | | Sep-12-19 13:00 | | Sep-12-19 13:00 | | Sep-12-19 13:00 | | Sep-12-19 13:00 | | Sep-12-19 13:00 | |
| | ***Analyzed:*** | Sep-12-19 20:36 | | Sep-12-19 19:33 | | Sep-12-19 20:57 | | Sep-12-19 21:17 | | Sep-12-19 19:54 | | Sep-12-19 21:38 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | 2270 | 501 | <25.0 | 25.0 | <251 | 251 | 268 | 251 | <25.1 | 25.1 | <251 | 251 |
| Diesel Range Organics (DRO) | | 19600 | 501 | <25.0 | 25.0 | 3240 | 251 | 6820 | 251 | <25.1 | 25.1 | 5600 | 251 |
| Motor Oil Range Hydrocarbons (MRO) | | <501 | 501 | <25.0 | 25.0 | <251 | 251 | <251 | 251 | <25.1 | 25.1 | <251 | 251 |
| Total GRO-DRO | | 21900 | 501 | <25.0 | 25.0 | 3240 | 251 | 7090 | 251 | <25.1 | 25.1 | 5600 | 251 |
| Total TPH | | 21900 | 501 | <25.0 | 25.0 | 3240 | 251 | 7090 | 251 | <25.1 | 25.1 | 5600 | 251 |

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.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 636644

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Thu Sep-12-19 08:45 am
**Report Date:** 16-SEP-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 636644-007 | | | | | |
| | ***Field Id:*** | SS07 | | | | | |
| | ***Depth:*** | 0.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | Sep-11-19 12:33 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Sep-13-19 10:09 | | | | | |
| | ***Analyzed:*** | Sep-13-19 16:29 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Benzene | | <0.0990 | 0.0990 | | | | |
| Toluene | | <0.0990 | 0.0990 | | | | |
| Ethylbenzene | | <0.0990 | 0.0990 | | | | |
| m,p-Xylenes | | <0.198 | 0.198 | | | | |
| o-Xylene | | <0.0990 | 0.0990 | | | | |
| Total Xylenes | | <0.0990 | 0.0990 | | | | |
| Total BTEX | | <0.0990 | 0.0990 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Sep-12-19 11:09 | | | | | |
| | ***Analyzed:*** | Sep-12-19 14:22 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Chloride | | 137 | 9.94 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Sep-12-19 13:00 | | | | | |
| | ***Analyzed:*** | Sep-12-19 21:59 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <250 | 250 | | | | |
| Diesel Range Organics (DRO) | | 6030 | 250 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <250 | 250 | | | | |
| Total GRO-DRO | | 6030 | 250 | | | | |
| Total TPH | | 6030 | 250 | | | | |

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-001 | Date Collected: | 09.11.19 12.24 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **29.0** | 9.98 | mg/kg | 09.12.19 13.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101373 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **2270** | 501 | mg/kg | 09.12.19 20.36 | | 20 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **19600** | 501 | mg/kg | 09.12.19 20.36 | | 20 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <501 | 501 | mg/kg | 09.12.19 20.36 | U | 20 |
| **Total GRO-DRO** | PHC628 | **21900** | 501 | mg/kg | 09.12.19 20.36 | | 20 |
| **Total TPH** | PHC635 | **21900** | 501 | mg/kg | 09.12.19 20.36 | | 20 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 09.12.19 20.36 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 09.12.19 20.36 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-001 | Date Collected: | 09.11.19 12.24 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |
| Toluene | 108-88-3 | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |
| Ethylbenzene | 100-41-4 | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |
| m,p-Xylenes | 179601-23-1 | <0.199 | 0.199 | mg/kg | 09.13.19 16.49 | U | 100 |
| o-Xylene | 95-47-6 | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |
| Total Xylenes | 1330-20-7 | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |
| Total BTEX | | <0.0994 | 0.0994 | mg/kg | 09.13.19 16.49 | U | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 09.13.19 16.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 09.13.19 16.49 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SS02** Matrix: Soil Date Received:09.12.19 08.45

Lab Sample Id: 636644-002 Date Collected: 09.11.19 12.26 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 09.12.19 11.09 Basis: Wet Weight

Seq Number: 3101331

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 09.12.19 13.37 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 09.12.19 13.00 Basis: Wet Weight

Seq Number: 3101373

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.0 | 25.0 | mg/kg | 09.12.19 19.33 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.0 | 25.0 | mg/kg | 09.12.19 19.33 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.0 | 25.0 | mg/kg | 09.12.19 19.33 | U | 1 |
| Total GRO-DRO | PHC628 | <25.0 | 25.0 | mg/kg | 09.12.19 19.33 | U | 1 |
| Total TPH | PHC635 | <25.0 | 25.0 | mg/kg | 09.12.19 19.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 09.12.19 19.33 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 09.12.19 19.33 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-002 | Date Collected: | 09.11.19 12.26 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 09.13.19 13.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 09.13.19 13.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.13.19 13.52 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 09.13.19 13.52 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS03** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-003 | Date Collected: | 09.11.19 12.28 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **30.6** | 10.0 | mg/kg | 09.12.19 13.43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101373 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <251 | 251 | mg/kg | 09.12.19 20.57 | U | 10 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **3240** | 251 | mg/kg | 09.12.19 20.57 | | 10 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <251 | 251 | mg/kg | 09.12.19 20.57 | U | 10 |
| **Total GRO-DRO** | PHC628 | **3240** | 251 | mg/kg | 09.12.19 20.57 | | 10 |
| **Total TPH** | PHC635 | **3240** | 251 | mg/kg | 09.12.19 20.57 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.12.19 20.57 | |
| o-Terphenyl | 84-15-1 | 119 | % | 70-135 | 09.12.19 20.57 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS03** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-003 | Date Collected: | 09.11.19 12.28 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0506 | 0.0506 | mg/kg | 09.13.19 15.30 | U | 500 |
| **Toluene** | 108-88-3 | **2.60** | 0.506 | mg/kg | 09.13.19 15.30 | | 500 |
| **Ethylbenzene** | 100-41-4 | **2.97** | 0.506 | mg/kg | 09.13.19 15.30 | | 500 |
| **m,p-Xylenes** | 179601-23-1 | **6.43** | 1.01 | mg/kg | 09.13.19 15.30 | | 500 |
| **o-Xylene** | 95-47-6 | **2.42** | 0.506 | mg/kg | 09.13.19 15.30 | | 500 |
| **Total Xylenes** | 1330-20-7 | **8.85** | 0.506 | mg/kg | 09.13.19 15.30 | | 500 |
| **Total BTEX** | | **14.4** | 0.0506 | mg/kg | 09.13.19 15.30 | | 500 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 09.13.19 15.30 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 09.13.19 15.30 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-004 | Date Collected: | 09.11.19 12.29 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **26.3** | 10.1 | mg/kg | 09.12.19 13.50 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101373 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **268** | 251 | mg/kg | 09.12.19 21.17 | | 10 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **6820** | 251 | mg/kg | 09.12.19 21.17 | | 10 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <251 | 251 | mg/kg | 09.12.19 21.17 | U | 10 |
| **Total GRO-DRO** | PHC628 | **7090** | 251 | mg/kg | 09.12.19 21.17 | | 10 |
| **Total TPH** | PHC635 | **7090** | 251 | mg/kg | 09.12.19 21.17 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 09.12.19 21.17 | |
| o-Terphenyl | 84-15-1 | 138 | % | 70-135 | 09.12.19 21.17 | ** |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-004 | Date Collected: | 09.11.19 12.29 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |
| Toluene | 108-88-3 | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |
| Ethylbenzene | 100-41-4 | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |
| m,p-Xylenes | 179601-23-1 | <0.202 | 0.202 | mg/kg | 09.13.19 15.50 | U | 100 |
| o-Xylene | 95-47-6 | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |
| Total Xylenes | 1330-20-7 | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |
| Total BTEX | | <0.101 | 0.101 | mg/kg | 09.13.19 15.50 | U | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 09.13.19 15.50 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 09.13.19 15.50 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SS05** Matrix: Soil Date Received:09.12.19 08.45

Lab Sample Id: 636644-005 Date Collected: 09.11.19 12.31 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 09.12.19 11.09 Basis: Wet Weight

Seq Number: 3101331

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **65.3** | 10.0 | mg/kg | 09.12.19 13.56 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 09.12.19 13.00 Basis: Wet Weight

Seq Number: 3101373

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.12.19 19.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 19.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 19.54 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 19.54 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 19.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.12.19 19.54 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 09.12.19 19.54 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS05** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-005 | Date Collected: | 09.11.19 12.31 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 09.13.19 15.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.13.19 15.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 09.13.19 15.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 09.13.19 15.10 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SS06** Matrix: Soil Date Received:09.12.19 08.45

Lab Sample Id: 636644-006 Date Collected: 09.11.19 12.32 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 09.12.19 11.09 Basis: Wet Weight

Seq Number: 3101331

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **46.2** | 10.1 | mg/kg | 09.12.19 14.15 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 09.12.19 13.00 Basis: Wet Weight

Seq Number: 3101373

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <251 | 251 | mg/kg | 09.12.19 21.38 | U | 10 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **5600** | 251 | mg/kg | 09.12.19 21.38 | | 10 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <251 | 251 | mg/kg | 09.12.19 21.38 | U | 10 |
| **Total GRO-DRO** | PHC628 | **5600** | 251 | mg/kg | 09.12.19 21.38 | | 10 |
| **Total TPH** | PHC635 | **5600** | 251 | mg/kg | 09.12.19 21.38 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 09.12.19 21.38 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 09.12.19 21.38 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS06** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-006 | Date Collected: | 09.11.19 12.32 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.101 | 0.101 | mg/kg | 09.13.19 16.09 | U | 100 |
| **Toluene** | 108-88-3 | **0.117** | 0.101 | mg/kg | 09.13.19 16.09 | | 100 |
| **Ethylbenzene** | 100-41-4 | **0.166** | 0.101 | mg/kg | 09.13.19 16.09 | | 100 |
| **m,p-Xylenes** | 179601-23-1 | **0.401** | 0.201 | mg/kg | 09.13.19 16.09 | | 100 |
| **o-Xylene** | 95-47-6 | **0.126** | 0.101 | mg/kg | 09.13.19 16.09 | | 100 |
| **Total Xylenes** | 1330-20-7 | **0.527** | 0.101 | mg/kg | 09.13.19 16.09 | | 100 |
| **Total BTEX** | | **0.810** | 0.101 | mg/kg | 09.13.19 16.09 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 09.13.19 16.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 09.13.19 16.09 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS07** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-007 | Date Collected: | 09.11.19 12.33 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **137** | 9.94 | mg/kg | 09.12.19 14.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101373 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <250 | 250 | mg/kg | 09.12.19 21.59 | U | 10 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **6030** | 250 | mg/kg | 09.12.19 21.59 | | 10 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <250 | 250 | mg/kg | 09.12.19 21.59 | U | 10 |
| **Total GRO-DRO** | PHC628 | **6030** | 250 | mg/kg | 09.12.19 21.59 | | 10 |
| **Total TPH** | PHC635 | **6030** | 250 | mg/kg | 09.12.19 21.59 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 09.12.19 21.59 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 09.12.19 21.59 | |

# Certificate of Analytical Results 636644

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS07** | Matrix: | Soil | Date Received: | 09.12.19 08.45 |
| Lab Sample Id: | 636644-007 | Date Collected: | 09.11.19 12.33 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.13.19 10.09 | Basis: | Wet Weight |
| Seq Number: | 3101467 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |
| Toluene | 108-88-3 | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |
| Ethylbenzene | 100-41-4 | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |
| m,p-Xylenes | 179601-23-1 | <0.198 | 0.198 | mg/kg | 09.13.19 16.29 | U | 100 |
| o-Xylene | 95-47-6 | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |
| Total Xylenes | 1330-20-7 | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |
| Total BTEX | | <0.0990 | 0.0990 | mg/kg | 09.13.19 16.29 | U | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 09.13.19 16.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 09.13.19 16.29 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 636644



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101331 Matrix: Solid Date Prep: 09.12.19
MB Sample Id: 7686048-1-BLK LCS Sample Id: 7686048-1-BKS LCSD Sample Id: 7686048-1-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 | 260 | 104 | 261 | 104 | 90-110 | 0 | 20 | mg/kg | 09.12.19 12:08 | |

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101331 Matrix: Soil Date Prep: 09.12.19
Parent Sample Id: 636644-001 MS Sample Id: 636644-001 S MSD Sample Id: 636644-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 29.0 | 200 | 246 | 109 | 248 | 109 | 90-110 | 1 | 20 | mg/kg | 09.12.19 13:24 | |

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101331 Matrix: Soil Date Prep: 09.12.19
Parent Sample Id: 636646-004 MS Sample Id: 636646-004 S MSD Sample Id: 636646-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 2040 | 2000 | 4510 | 124 | 4620 | 129 | 90-110 | 2 | 20 | mg/kg | 09.12.19 14:54 | X |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3101373 Matrix: Solid Date Prep: 09.12.19
MB Sample Id: 7686148-1-BLK LCS Sample Id: 7686148-1-BKS LCSD Sample Id: 7686148-1-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) | <25.0 | 1000 | 930 | 93 | 968 | 97 | 70-135 | 4 | 35 | mg/kg | 09.12.19 13:20 | |
| Diesel Range Organics (DRO) | <25.0 | 1000 | 880 | 88 | 903 | 90 | 70-135 | 3 | 35 | mg/kg | 09.12.19 13:20 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 115 | | 110 | | 110 | | 70-135 | % | 09.12.19 13:20 |
| o-Terphenyl | 96 | | 105 | | 101 | | 70-135 | % | 09.12.19 13:20 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 636644



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101373 — Matrix: Soil — Date Prep: 09.12.19
Parent Sample Id: 636646-001 — MS Sample Id: 636646-001 S — MSD Sample Id: 636646-001 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) | <25.0 | 1000 | 1090 | 109 | 945 | 95 | 70-135 | 14 | 35 | mg/kg | 09.12.19 16:48 | |
| Diesel Range Organics (DRO) | <25.0 | 1000 | 1010 | 101 | 885 | 89 | 70-135 | 13 | 35 | mg/kg | 09.12.19 16:48 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 127 | | 110 | | 70-135 | % | 09.12.19 16:48 |
| o-Terphenyl | 114 | | 101 | | 70-135 | % | 09.12.19 16:48 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3101467 — Matrix: Solid — Date Prep: 09.13.19
MB Sample Id: 7686225-1-BLK — LCS Sample Id: 7686225-1-BKS — LCSD Sample Id: 7686225-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0883 | 88 | 0.0812 | 81 | 70-130 | 8 | 35 | mg/kg | 09.13.19 12:53 | |
| Toluene | <0.00100 | 0.100 | 0.0912 | 91 | 0.0968 | 97 | 70-130 | 6 | 35 | mg/kg | 09.13.19 12:53 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.113 | 113 | 0.120 | 120 | 71-129 | 6 | 35 | mg/kg | 09.13.19 12:53 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.230 | 115 | 0.247 | 124 | 70-135 | 7 | 35 | mg/kg | 09.13.19 12:53 | |
| o-Xylene | <0.00100 | 0.100 | 0.115 | 115 | 0.124 | 124 | 71-133 | 8 | 35 | mg/kg | 09.13.19 12:53 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 108 | | 112 | | 70-130 | % | 09.13.19 12:53 |
| 4-Bromofluorobenzene | 106 | | 127 | | 125 | | 70-130 | % | 09.13.19 12:53 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3101467 — Matrix: Solid — Date Prep: 09.13.19
Parent Sample Id: 636644-002 — MS Sample Id: 636644-002 S — MSD Sample Id: 636644-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0819 | 82 | 0.0966 | 97 | 70-130 | 16 | 35 | mg/kg | 09.13.19 14:11 | |
| Toluene | <0.00100 | 0.100 | 0.0827 | 83 | 0.0990 | 99 | 70-130 | 18 | 35 | mg/kg | 09.13.19 14:11 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0902 | 90 | 0.109 | 109 | 71-129 | 19 | 35 | mg/kg | 09.13.19 14:11 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.184 | 92 | 0.221 | 111 | 70-135 | 18 | 35 | mg/kg | 09.13.19 14:11 | |
| o-Xylene | <0.00100 | 0.100 | 0.0916 | 92 | 0.110 | 110 | 71-133 | 18 | 35 | mg/kg | 09.13.19 14:11 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 91 | | 109 | | 70-130 | % | 09.13.19 14:11 |
| 4-Bromofluorobenzene | 102 | | 117 | | 70-130 | % | 09.13.19 14:11 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 631664

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | X |
| P.O. Number: | Lea County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 2.3 | Thermometer ID | |
| Received Intact: | Yes No | T-NM-007 | |
| 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 | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SS01 | s | 9/11/2019 | 12:24 | 0.5 | 1 | X | X | X | discrete |
| SS02 | s | 9/11/2019 | 12:26 | 0.5 | 1 | X | X | X | discrete |
| SS03 | s | 9/11/2019 | 12:28 | 0.5 | 1 | X | X | X | discrete |
| SS04 | s | 9/11/2019 | 12:29 | 0.5 | 1 | X | X | X | discrete |
| SS05 | s | 9/11/2019 | 12:31 | 0.5 | 1 | X | X | X | discrete |
| SS06 | s | 9/11/2019 | 12:32 | 0.5 | 1 | X | X | X | discrete |
| SS07 | s | 9/11/2019 | 12:33 | 0.5 | 1 | X | X | X | discrete |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**ANALYSIS REQUEST**

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 09/12/19 7:40 | 2 | | 09/12/2019 8:45 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

Page 24 of 25

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/12/2019 08:45:00 AM

**Work Order #:** 636644

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 09/12/2019

**Checklist reviewed by:** Jessica Kramer Date: 09/12/2019

Jessica Kramer

# Analytical Report 640592

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**23-OCT-19**

Collected By: Client

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

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

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

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

23-OCT-19

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

Reference: XENCO Report No(s): **640592**
**EMSU CTB**
Project Address: Lee County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 640592. 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. 640592 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS01 | S | 10-16-19 09:48 | 0.5 ft | 640592-001 |
| FS02 | S | 10-16-19 14:51 | 0.5 ft | 640592-002 |
| FS03 | S | 10-16-19 14:52 | 0.5 ft | 640592-003 |
| FS04 | S | 10-16-19 14:53 | 0.5 ft | 640592-004 |
| FS05 | S | 10-16-19 14:54 | 0.5 ft | 640592-005 |
| FS06 | S | 10-16-19 14:55 | 0.5 ft | 640592-006 |
| FS07 | S | 10-16-19 14:56 | 0.5 ft | 640592-007 |
| FS08 | S | 10-16-19 14:57 | 0.5 ft | 640592-008 |
| FS09 | S | 10-21-19 14:10 | 0.5 ft | 640592-009 |
| FS10 | S | 10-21-19 14:11 | 0.5 ft | 640592-010 |
| FS11 | S | 10-21-19 14:12 | 0.5 ft | 640592-011 |
| FS12 | S | 10-21-19 14:13 | 0.5 ft | 640592-012 |
| BH01A | S | 10-16-19 11:45 | 1 ft | 640592-013 |
| BH02A | S | 10-16-19 11:59 | 1 ft | 640592-014 |
| BH03A | S | 10-16-19 12:11 | 1 ft | 640592-015 |
| BH04A | S | 10-16-19 12:43 | 1 ft | 640592-016 |
| BH05A | S | 10-16-19 13:00 | 1 ft | 640592-017 |
| BH06A | S | 10-21-19 09:19 | 1 ft | 640592-018 |
| BH07A | S | 10-21-19 09:54 | 1 ft | 640592-019 |
| BH08A | S | 10-21-19 10:23 | 1 ft | 640592-020 |
| BH09A | S | 10-21-19 10:50 | 1 ft | 640592-021 |
| BH10A | S | 10-21-19 11:56 | 1 ft | 640592-022 |
| BH11A | S | 10-21-19 12:56 | 1 ft | 640592-023 |
| BH12A | S | 10-21-19 13:05 | 1 ft | 640592-024 |
| BH13A | S | 10-21-19 13:19 | 1 ft | 640592-025 |
| BH14A | S | 10-21-19 13:31 | 1 ft | 640592-026 |
| BH01B | S | 10-16-19 11:46 | 2 ft | 640592-027 |
| BH02B | S | 10-16-19 12:00 | 2 ft | 640592-028 |
| BH03B | S | 10-16-19 12:12 | 2 ft | 640592-029 |
| BH04B | S | 10-16-19 12:44 | 2 ft | 640592-030 |
| BH05B | S | 10-16-19 13:01 | 2 ft | 640592-031 |
| BH06B | S | 10-21-19 09:20 | 2 ft | 640592-032 |
| BH07B | S | 10-21-19 09:55 | 2 ft | 640592-033 |
| BH08B | S | 10-21-19 10:24 | 2 ft | 640592-034 |
| BH09B | S | 10-21-19 10:51 | 2 ft | 640592-035 |
| BH10B | S | 10-21-19 11:57 | 2 ft | 640592-036 |
| BH11B | S | 10-21-19 12:57 | 2 ft | 640592-037 |
| BH12B | S | 10-21-19 13:06 | 2 ft | 640592-038 |
| BH13B | S | 10-21-19 13:20 | 2 ft | 640592-039 |
| BH14B | S | 10-21-19 13:32 | 2 ft | 640592-040 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *640592*

Report Date: *23-OCT-19*
Date Received: *10/21/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3104962 Chloride by EPA 300
Lab Sample ID 640592-011 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: 640592-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3104979 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 640592-012,640592-004.

Batch: LBA-3105054 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-001 | | 640592-002 | | 640592-003 | | 640592-004 | | 640592-005 | | 640592-006 | |
| | ***Field Id:*** | FS01 | | FS02 | | FS03 | | FS04 | | FS05 | | FS06 | |
| | ***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:*** | Oct-16-19 09:48 | | Oct-16-19 14:51 | | Oct-16-19 14:52 | | Oct-16-19 14:53 | | Oct-16-19 14:54 | | Oct-16-19 14:55 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-21-19 21:06 | | Oct-22-19 10:01 | | Oct-21-19 21:44 | | Oct-21-19 22:03 | | Oct-22-19 10:22 | | Oct-21-19 22:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.0100 | 0.0100 | <0.000994 | 0.000994 |
| Toluene | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.0100 | 0.0100 | <0.000994 | 0.000994 |
| Ethylbenzene | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | 0.0337 | 0.0100 | <0.000994 | 0.000994 |
| m,p-Xylenes | | <0.00199 | 0.00199 | <0.0202 | 0.0202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | 0.0403 | 0.0200 | <0.00199 | 0.00199 |
| o-Xylene | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | 0.00381 | 0.00100 | 0.0894 | 0.0100 | <0.000994 | 0.000994 |
| Total Xylenes | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | 0.00381 | 0.00100 | 0.130 | 0.0100 | <0.000994 | 0.000994 |
| Total BTEX | | <0.000994 | 0.000994 | <0.0101 | 0.0101 | <0.00100 | 0.00100 | 0.00381 | 0.00100 | 0.163 | 0.0100 | <0.000994 | 0.000994 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-21-19 21:17 | | Oct-21-19 21:36 | | Oct-21-19 21:42 | | Oct-21-19 21:48 | | Oct-21-19 21:54 | | Oct-21-19 22:13 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 17.7 | 10.0 | 43.1 | 10.0 | 80.6 | 10.0 | 19.1 | 10.0 | 50.8 | 10.0 | 16.3 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-22-19 11:30 | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***Analyzed:*** | Oct-22-19 13:02 | | Oct-22-19 09:29 | | Oct-21-19 20:28 | | Oct-21-19 20:28 | | Oct-22-19 09:29 | | Oct-21-19 21:08 | |
| | ***Units/RL:*** | 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 | <50.2 | 50.2 | <49.8 | 49.8 | <50.2 | 50.2 | 53.6 | 49.8 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <49.8 | 49.8 | 1290 | 50.2 | <49.8 | 49.8 | 101 | 50.2 | 2840 | 49.8 | 1440 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.8 | 49.8 | 136 | 50.2 | <49.8 | 49.8 | <50.2 | 50.2 | 327 | 49.8 | 145 | 50.0 |
| Total GRO-DRO | | <49.8 | 49.8 | 1290 | 50.2 | <49.8 | 49.8 | 101 | 50.2 | 2890 | 49.8 | 1440 | 50.0 |
| Total TPH | | <49.8 | 49.8 | 1430 | 50.2 | <49.8 | 49.8 | 101 | 50.2 | 3220 | 49.8 | 1590 | 50.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-007 | | 640592-008 | | 640592-009 | | 640592-010 | | 640592-011 | | 640592-012 | |
| | ***Field Id:*** | FS07 | | FS08 | | FS09 | | FS10 | | FS11 | | FS12 | |
| | ***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:*** | Oct-16-19 14:56 | | Oct-16-19 14:57 | | Oct-21-19 14:10 | | Oct-21-19 14:11 | | Oct-21-19 14:12 | | Oct-21-19 14:13 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-22-19 11:43 | | Oct-22-19 10:42 | | Oct-21-19 23:45 | | Oct-22-19 11:03 | | Oct-22-19 11:23 | | Oct-22-19 01:27 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.100 | 0.100 | <0.00990 | 0.00990 | <0.00101 | 0.00101 | <0.00990 | 0.00990 | <0.0100 | 0.0100 | <0.000998 | 0.000998 |
| Toluene | | 0.522 | 0.100 | <0.00990 | 0.00990 | <0.00101 | 0.00101 | <0.00990 | 0.00990 | <0.0100 | 0.0100 | <0.000998 | 0.000998 |
| Ethylbenzene | | 1.92 | 0.100 | 0.0561 | 0.00990 | <0.00101 | 0.00101 | 0.0141 | 0.00990 | <0.0100 | 0.0100 | <0.000998 | 0.000998 |
| m,p-Xylenes | | 5.69 | 0.200 | 0.170 | 0.0198 | <0.00202 | 0.00202 | <0.0198 | 0.0198 | <0.0200 | 0.0200 | <0.00200 | 0.00200 |
| o-Xylene | | 1.66 | 0.100 | 0.0974 | 0.00990 | 0.00617 | 0.00101 | 0.0380 | 0.00990 | <0.0100 | 0.0100 | 0.00228 | 0.000998 |
| Total Xylenes | | 7.35 | 0.100 | 0.267 | 0.00990 | 0.00617 | 0.00101 | 0.0380 | 0.00990 | <0.0100 | 0.0100 | 0.00228 | 0.000998 |
| Total BTEX | | 9.79 | 0.100 | 0.324 | 0.00990 | 0.00617 | 0.00101 | 0.0521 | 0.00990 | <0.0100 | 0.0100 | 0.00228 | 0.000998 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-21-19 22:20 | | Oct-21-19 22:26 | | Oct-21-19 22:32 | | Oct-21-19 22:38 | | Oct-21-19 22:45 | | Oct-21-19 23:24 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | 36.9 | 10.0 | 42.9 | 10.0 | <10.0 | 10.0 | 49.2 | 10.0 | 41.4 | 9.86 |
| **TPH by SW8015 Mod** | ***Extracted:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***Analyzed:*** | Oct-21-19 21:08 | | Oct-21-19 21:28 | | Oct-21-19 21:28 | | Oct-22-19 09:49 | | Oct-21-19 21:48 | | Oct-22-19 09:49 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | 601 | 250 | 64.0 | 50.3 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | 8640 | 250 | 1530 | 50.3 | 3350 | 50.3 | 2510 | 50.0 | 1120 | 50.1 | 2010 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | 794 | 250 | 170 | 50.3 | 396 | 50.3 | 269 | 50.0 | 152 | 50.1 | 267 | 49.9 |
| Total GRO-DRO | | 9240 | 250 | 1590 | 50.3 | 3350 | 50.3 | 2510 | 50.0 | 1120 | 50.1 | 2010 | 49.9 |
| Total TPH | | 10000 | 250 | 1760 | 50.3 | 3750 | 50.3 | 2780 | 50.0 | 1270 | 50.1 | 2280 | 49.9 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-013 | | 640592-014 | | 640592-015 | | 640592-016 | | 640592-017 | | 640592-018 | |
| | ***Field Id:*** | BH01A | | BH02A | | BH03A | | BH04A | | BH05A | | BH06A | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-16-19 11:45 | | Oct-16-19 11:59 | | Oct-16-19 12:11 | | Oct-16-19 12:43 | | Oct-16-19 13:00 | | Oct-21-19 09:19 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-22-19 01:47 | | Oct-22-19 02:06 | | Oct-22-19 02:25 | | Oct-22-19 02:44 | | Oct-22-19 03:03 | | Oct-22-19 03:22 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| Toluene | | 0.00527 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| Ethylbenzene | | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| m,p-Xylenes | | 0.00457 | 0.00199 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| o-Xylene | | 0.00268 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| Total Xylenes | | 0.00725 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| Total BTEX | | 0.0125 | 0.000994 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000996 | 0.000996 | <0.00100 | 0.00100 | <0.00101 | 0.00101 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-21-19 23:22 | | Oct-21-19 23:28 | | Oct-21-19 23:35 | | Oct-21-19 23:41 | | Oct-21-19 23:47 | | Oct-21-19 23:53 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | <10.0 | 10.0 | <10.0 | 10.0 | <10.0 | 10.0 | 282 | 50.0 | <10.0 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | |
| | ***Analyzed:*** | Oct-21-19 22:08 | | Oct-21-19 22:27 | | Oct-21-19 22:27 | | Oct-22-19 13:42 | | Oct-22-19 13:42 | | Oct-22-19 14:02 | |
| | ***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 | <50.3 | 50.3 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | 111 | 50.2 | 57.9 | 50.3 | 75.9 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total GRO-DRO | | 111 | 50.2 | 57.9 | 50.3 | 75.9 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total TPH | | 111 | 50.2 | 57.9 | 50.3 | 75.9 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 | <50.2 | 50.2 |

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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-019 | | 640592-020 | | 640592-021 | | 640592-022 | | 640592-023 | | 640592-024 | |
| | ***Field Id:*** | BH07A | | BH08A | | BH09A | | BH10A | | BH11A | | BH12A | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-21-19 09:54 | | Oct-21-19 10:23 | | Oct-21-19 10:50 | | Oct-21-19 11:56 | | Oct-21-19 12:56 | | Oct-21-19 13:05 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-22-19 03:41 | | Oct-22-19 04:00 | | Oct-22-19 07:06 | | Oct-22-19 07:25 | | Oct-22-19 07:44 | | Oct-22-19 08:03 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | <0.000986 | 0.000986 | <0.00101 | 0.00101 |
| Toluene | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | <0.000986 | 0.000986 | <0.00101 | 0.00101 |
| Ethylbenzene | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | <0.000986 | 0.000986 | <0.00101 | 0.00101 |
| m,p-Xylenes | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00197 | 0.00197 | <0.00202 | 0.00202 |
| o-Xylene | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | 0.00207 | 0.000986 | 0.00139 | 0.00101 |
| Total Xylenes | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | 0.00207 | 0.000986 | 0.00139 | 0.00101 |
| Total BTEX | | <0.000996 | 0.000996 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000988 | 0.000988 | 0.00207 | 0.000986 | 0.00139 | 0.00101 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-22-19 00:00 | | Oct-22-19 00:06 | | Oct-22-19 09:04 | | Oct-22-19 09:34 | | Oct-22-19 09:40 | | Oct-22-19 09:46 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 27.3 | 10.0 | <10.0 | 10.0 | <10.0 | 10.0 | 39.2 | 9.88 | 15.6 | 9.98 | <9.88 | 9.88 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | |
| | ***Analyzed:*** | Oct-22-19 14:02 | | Oct-22-19 14:21 | | Oct-22-19 14:21 | | Oct-22-19 14:41 | | Oct-22-19 14:41 | | Oct-22-19 15:01 | |
| | ***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 | <50.1 | 50.1 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | <49.8 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | <49.8 | 49.8 |
| Total TPH | | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | <49.8 | 49.8 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-025 | | 640592-026 | | 640592-027 | | 640592-028 | | 640592-029 | | 640592-030 | |
| | ***Field Id:*** | BH13A | | BH14A | | BH01B | | BH02B | | BH03B | | BH04B | |
| | ***Depth:*** | 1- ft | | 1- ft | | 2- ft | | 2- ft | | 2- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-21-19 13:19 | | Oct-21-19 13:31 | | Oct-16-19 11:46 | | Oct-16-19 12:00 | | Oct-16-19 12:12 | | Oct-16-19 12:44 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-22-19 08:22 | | Oct-22-19 08:43 | | Oct-22-19 09:00 | | Oct-22-19 09:20 | | Oct-22-19 09:39 | | Oct-22-19 09:58 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| Toluene | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | 0.00178 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| o-Xylene | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | 0.00286 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | 0.00286 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| Total BTEX | | <0.00100 | 0.00100 | <0.000998 | 0.000998 | 0.00464 | 0.00100 | <0.000994 | 0.000994 | <0.00100 | 0.00100 | <0.000998 | 0.000998 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-22-19 09:52 | | Oct-22-19 10:44 | | Oct-22-19 10:50 | | Oct-22-19 10:56 | | Oct-22-19 11:02 | | Oct-22-19 11:09 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 39.0 | 9.94 | <9.92 | 9.92 | <9.96 | 9.96 | <9.92 | 9.92 | <9.98 | 9.98 | 14.2 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | |
| | ***Analyzed:*** | Oct-22-19 15:21 | | Oct-22-19 15:21 | | Oct-22-19 15:41 | | Oct-22-19 15:41 | | Oct-22-19 16:01 | | Oct-22-19 16:01 | |
| | ***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 | <50.0 | 50.0 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | 174 | 50.0 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.0 | 50.0 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Total GRO-DRO | | <50.2 | 50.2 | 174 | 50.0 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Total TPH | | <50.2 | 50.2 | 174 | 50.0 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-031 | | 640592-032 | | 640592-033 | | 640592-034 | | 640592-035 | | 640592-036 | |
| | ***Field Id:*** | BH05B | | BH06B | | BH07B | | BH08B | | BH09B | | BH10B | |
| | ***Depth:*** | 2- ft | | 2- ft | | 2- ft | | 2- ft | | 2- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-16-19 13:01 | | Oct-21-19 09:20 | | Oct-21-19 09:55 | | Oct-21-19 10:24 | | Oct-21-19 10:51 | | Oct-21-19 11:57 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | |
| | ***Analyzed:*** | Oct-22-19 13:16 | | Oct-22-19 13:35 | | Oct-22-19 13:54 | | Oct-22-19 14:13 | | Oct-22-19 14:32 | | Oct-22-19 14:52 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.000992 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | <0.000992 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| Toluene | | 0.00117 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | <0.000992 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.000992 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | <0.000992 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.00198 | 0.00198 | <0.00197 | 0.00197 | <0.00200 | 0.00200 | 0.00516 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| o-Xylene | | <0.000992 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | 0.00154 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.000992 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | 0.00670 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| Total BTEX | | 0.00117 | 0.000992 | <0.000986 | 0.000986 | <0.000998 | 0.000998 | 0.00670 | 0.000992 | <0.000988 | 0.000988 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | |
| | ***Analyzed:*** | Oct-22-19 11:15 | | Oct-22-19 11:34 | | Oct-22-19 12:54 | | Oct-22-19 13:01 | | Oct-22-19 13:07 | | Oct-22-19 13:13 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 77.0 | 10.0 | 41.6 | 9.94 | 237 | 9.96 | 12.3 | 9.94 | <10.1 | 10.1 | 224 | 9.82 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 11:30 | | Oct-22-19 12:30 | | Oct-22-19 12:30 | |
| | ***Analyzed:*** | Oct-22-19 18:02 | | Oct-22-19 16:21 | | Oct-22-19 16:41 | | Oct-22-19 16:41 | | Oct-22-19 17:42 | | Oct-22-19 18:24 | |
| | ***Units/RL:*** | 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 | <50.0 | 50.0 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | 544 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | 71.3 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | 159 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 |
| Total GRO-DRO | | 544 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | 71.3 | 50.0 |
| Total TPH | | 703 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | 71.3 | 50.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640592

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lee County

**Date Received in Lab:** Mon Oct-21-19 04:35 pm
**Report Date:** 23-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640592-037 | | 640592-038 | | 640592-039 | | 640592-040 | | | | | | | |
| | ***Field Id:*** | BH11B | | BH12B | | BH13B | | BH14B | | | | | | | |
| | ***Depth:*** | 2- ft | | 2- ft | | 2- ft | | 2- ft | | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | | | |
| | ***Sampled:*** | Oct-21-19 12:57 | | Oct-21-19 13:06 | | Oct-21-19 13:20 | | Oct-21-19 13:32 | | | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | Oct-21-19 17:10 | | | | | | | |
| | ***Analyzed:*** | Oct-22-19 15:11 | | Oct-22-19 15:30 | | Oct-22-19 15:49 | | Oct-22-19 16:08 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Benzene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| Toluene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| Ethylbenzene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| m,p-Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | | | | | | |
| o-Xylene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| Total Xylenes | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| Total BTEX | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000986 | 0.000986 | <0.000990 | 0.000990 | | | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | Oct-21-19 18:10 | | | | | | | |
| | ***Analyzed:*** | Oct-22-19 13:20 | | Oct-22-19 13:26 | | Oct-22-19 13:32 | | Oct-22-19 13:38 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Chloride | | 10.2 | 9.92 | <9.94 | 9.94 | 35.8 | 9.98 | 34.3 | 9.88 | | | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-22-19 12:30 | | Oct-22-19 12:30 | | Oct-22-19 12:30 | | Oct-22-19 12:30 | | | | | | | |
| | ***Analyzed:*** | Oct-22-19 18:44 | | Oct-22-19 18:44 | | Oct-22-19 19:04 | | Oct-22-19 19:04 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <50.0 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | | | | | | |
| Diesel Range Organics (DRO) | | 56.8 | 50.1 | <50.0 | 50.0 | <49.8 | 49.8 | 74.8 | 50.2 | | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.0 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | | | | | | |
| Total GRO-DRO | | 56.8 | 50.1 | <50.0 | 50.0 | <49.8 | 49.8 | 74.8 | 50.2 | | | | | | |
| Total TPH | | 56.8 | 50.1 | <50.0 | 50.0 | <49.8 | 49.8 | 74.8 | 50.2 | | | | | | |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS01** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-001 | Date Collected: | 10.16.19 09.48 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **17.7** | 10.0 | mg/kg | 10.21.19 21.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 13.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.22.19 13.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.22.19 13.02 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.22.19 13.02 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.22.19 13.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 10.22.19 13.02 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 10.22.19 13.02 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS01** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-001 | Date Collected: | 10.16.19 09.48 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.21.19 21.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 10.21.19 21.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 10.21.19 21.06 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.21.19 21.06 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS02** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-002 | Date Collected: | 10.16.19 14.51 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **43.1** | 10.0 | mg/kg | 10.21.19 21.36 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 09.29 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1290** | 50.2 | mg/kg | 10.22.19 09.29 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **136** | 50.2 | mg/kg | 10.22.19 09.29 | | 1 |
| **Total GRO-DRO** | PHC628 | **1290** | 50.2 | mg/kg | 10.22.19 09.29 | | 1 |
| **Total TPH** | PHC635 | **1430** | 50.2 | mg/kg | 10.22.19 09.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.22.19 09.29 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.22.19 09.29 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS02** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-002 | Date Collected: | 10.16.19 14.51 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |
| Toluene | 108-88-3 | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0202 | 0.0202 | mg/kg | 10.22.19 10.01 | U | 10 |
| o-Xylene | 95-47-6 | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |
| Total Xylenes | 1330-20-7 | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |
| Total BTEX | | <0.0101 | 0.0101 | mg/kg | 10.22.19 10.01 | U | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.22.19 10.01 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 10.22.19 10.01 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS03** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-003 | Date Collected: | 10.16.19 14.52 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **80.6** | 10.0 | mg/kg | 10.21.19 21.42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.21.19 20.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.21.19 20.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.21.19 20.28 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.21.19 20.28 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.21.19 20.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 10.21.19 20.28 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 10.21.19 20.28 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS03** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-003 | Date Collected: | 10.16.19 14.52 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.21.19 21.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.21.19 21.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 10.21.19 21.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 10.21.19 21.44 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS04** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-004 | Date Collected: | 10.16.19 14.53 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.1** | 10.0 | mg/kg | 10.21.19 21.48 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.21.19 20.28 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **101** | 50.2 | mg/kg | 10.21.19 20.28 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.21.19 20.28 | U | 1 |
| **Total GRO-DRO** | PHC628 | **101** | 50.2 | mg/kg | 10.21.19 20.28 | | 1 |
| **Total TPH** | PHC635 | **101** | 50.2 | mg/kg | 10.21.19 20.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 10.21.19 20.28 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 10.21.19 20.28 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS04** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-004 | Date Collected: | 10.16.19 14.53 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.21.19 22.03 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.21.19 22.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.21.19 22.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.21.19 22.03 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00381** | 0.00100 | mg/kg | 10.21.19 22.03 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00381** | 0.00100 | mg/kg | 10.21.19 22.03 | | 1 |
| **Total BTEX** | | **0.00381** | 0.00100 | mg/kg | 10.21.19 22.03 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 10.21.19 22.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 145 | % | 70-130 | 10.21.19 22.03 | ** |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS05** Matrix: Soil Date Received:10.21.19 16.35

Lab Sample Id: 640592-005 Date Collected: 10.16.19 14.54 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight

Seq Number: 3104962

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **50.8** | 10.0 | mg/kg | 10.21.19 21.54 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.21.19 16.00 Basis: Wet Weight

Seq Number: 3104978

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **53.6** | 49.8 | mg/kg | 10.22.19 09.29 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2840** | 49.8 | mg/kg | 10.22.19 09.29 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **327** | 49.8 | mg/kg | 10.22.19 09.29 | | 1 |
| **Total GRO-DRO** | PHC628 | **2890** | 49.8 | mg/kg | 10.22.19 09.29 | | 1 |
| **Total TPH** | PHC635 | **3220** | 49.8 | mg/kg | 10.22.19 09.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 10.22.19 09.29 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 10.22.19 09.29 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS05** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-005 | Date Collected: | 10.16.19 14.54 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0100 | 0.0100 | mg/kg | 10.22.19 10.22 | U | 10 |
| Toluene | 108-88-3 | <0.0100 | 0.0100 | mg/kg | 10.22.19 10.22 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **0.0337** | 0.0100 | mg/kg | 10.22.19 10.22 | | 10 |
| **m,p-Xylenes** | 179601-23-1 | **0.0403** | 0.0200 | mg/kg | 10.22.19 10.22 | | 10 |
| **o-Xylene** | 95-47-6 | **0.0894** | 0.0100 | mg/kg | 10.22.19 10.22 | | 10 |
| **Total Xylenes** | 1330-20-7 | **0.130** | 0.0100 | mg/kg | 10.22.19 10.22 | | 10 |
| **Total BTEX** | | **0.163** | 0.0100 | mg/kg | 10.22.19 10.22 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 10.22.19 10.22 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 10.22 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS06** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-006 | Date Collected: | 10.16.19 14.55 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.3** | 10.0 | mg/kg | 10.21.19 22.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.21.19 21.08 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1440** | 50.0 | mg/kg | 10.21.19 21.08 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **145** | 50.0 | mg/kg | 10.21.19 21.08 | | 1 |
| **Total GRO-DRO** | PHC628 | **1440** | 50.0 | mg/kg | 10.21.19 21.08 | | 1 |
| **Total TPH** | PHC635 | **1590** | 50.0 | mg/kg | 10.21.19 21.08 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-135 | 10.21.19 21.08 | |
| o-Terphenyl | 84-15-1 | 80 | % | 70-135 | 10.21.19 21.08 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS06** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-006 | Date Collected: | 10.16.19 14.55 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.21.19 22.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 10.21.19 22.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.21.19 22.48 | |
| 4-Bromofluorobenzene | 460-00-4 | 128 | % | 70-130 | 10.21.19 22.48 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS07** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-007 | Date Collected: | 10.16.19 14.56 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 22.20 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **601** | 250 | mg/kg | 10.21.19 21.08 | | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **8640** | 250 | mg/kg | 10.21.19 21.08 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **794** | 250 | mg/kg | 10.21.19 21.08 | | 5 |
| **Total GRO-DRO** | PHC628 | **9240** | 250 | mg/kg | 10.21.19 21.08 | | 5 |
| **Total TPH** | PHC635 | **10000** | 250 | mg/kg | 10.21.19 21.08 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 118 | % | 70-135 | 10.21.19 21.08 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 10.21.19 21.08 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS07** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-007 | Date Collected: | 10.16.19 14.56 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.100 | 0.100 | mg/kg | 10.22.19 11.43 | U | 100 |
| **Toluene** | 108-88-3 | **0.522** | 0.100 | mg/kg | 10.22.19 11.43 | | 100 |
| **Ethylbenzene** | 100-41-4 | **1.92** | 0.100 | mg/kg | 10.22.19 11.43 | | 100 |
| **m,p-Xylenes** | 179601-23-1 | **5.69** | 0.200 | mg/kg | 10.22.19 11.43 | | 100 |
| **o-Xylene** | 95-47-6 | **1.66** | 0.100 | mg/kg | 10.22.19 11.43 | | 100 |
| **Total Xylenes** | 1330-20-7 | **7.35** | 0.100 | mg/kg | 10.22.19 11.43 | | 100 |
| **Total BTEX** | | **9.79** | 0.100 | mg/kg | 10.22.19 11.43 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 10.22.19 11.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.22.19 11.43 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS08** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-008 | Date Collected: | 10.16.19 14.57 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **36.9** | 10.0 | mg/kg | 10.21.19 22.26 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **64.0** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1530** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **170** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Total GRO-DRO** | PHC628 | **1590** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Total TPH** | PHC635 | **1760** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 10.21.19 21.28 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.21.19 21.28 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS08** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-008 | Date Collected: | 10.16.19 14.57 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00990 | 0.00990 | mg/kg | 10.22.19 10.42 | U | 10 |
| Toluene | 108-88-3 | <0.00990 | 0.00990 | mg/kg | 10.22.19 10.42 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **0.0561** | 0.00990 | mg/kg | 10.22.19 10.42 | | 10 |
| **m,p-Xylenes** | 179601-23-1 | **0.170** | 0.0198 | mg/kg | 10.22.19 10.42 | | 10 |
| **o-Xylene** | 95-47-6 | **0.0974** | 0.00990 | mg/kg | 10.22.19 10.42 | | 10 |
| **Total Xylenes** | 1330-20-7 | **0.267** | 0.00990 | mg/kg | 10.22.19 10.42 | | 10 |
| **Total BTEX** | | **0.324** | 0.00990 | mg/kg | 10.22.19 10.42 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 10.22.19 10.42 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.22.19 10.42 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS09** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-009 | Date Collected: | 10.21.19 14.10 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **42.9** | 10.0 | mg/kg | 10.21.19 22.32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.21.19 21.28 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **3350** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **396** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Total GRO-DRO** | PHC628 | **3350** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |
| **Total TPH** | PHC635 | **3750** | 50.3 | mg/kg | 10.21.19 21.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 10.21.19 21.28 | |
| o-Terphenyl | 84-15-1 | 82 | % | 70-135 | 10.21.19 21.28 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS09** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-009 | Date Collected: | 10.21.19 14.10 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.21.19 23.45 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.21.19 23.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.21.19 23.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.21.19 23.45 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00617** | 0.00101 | mg/kg | 10.21.19 23.45 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00617** | 0.00101 | mg/kg | 10.21.19 23.45 | | 1 |
| **Total BTEX** | | **0.00617** | 0.00101 | mg/kg | 10.21.19 23.45 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 10.21.19 23.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 10.21.19 23.45 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS10** Matrix: Soil Date Received:10.21.19 16.35
Lab Sample Id: 640592-010 Date Collected: 10.21.19 14.11 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight
Seq Number: 3104962

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 22.38 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 10.21.19 16.00 Basis: Wet Weight
Seq Number: 3104978

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 09.49 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2510** | 50.0 | mg/kg | 10.22.19 09.49 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **269** | 50.0 | mg/kg | 10.22.19 09.49 | | 1 |
| **Total GRO-DRO** | PHC628 | **2510** | 50.0 | mg/kg | 10.22.19 09.49 | | 1 |
| **Total TPH** | PHC635 | **2780** | 50.0 | mg/kg | 10.22.19 09.49 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 10.22.19 09.49 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 10.22.19 09.49 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS10** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-010 | Date Collected: | 10.21.19 14.11 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00990 | 0.00990 | mg/kg | 10.22.19 11.03 | U | 10 |
| Toluene | 108-88-3 | <0.00990 | 0.00990 | mg/kg | 10.22.19 11.03 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **0.0141** | 0.00990 | mg/kg | 10.22.19 11.03 | | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0198 | 0.0198 | mg/kg | 10.22.19 11.03 | U | 10 |
| **o-Xylene** | 95-47-6 | **0.0380** | 0.00990 | mg/kg | 10.22.19 11.03 | | 10 |
| **Total Xylenes** | 1330-20-7 | **0.0380** | 0.00990 | mg/kg | 10.22.19 11.03 | | 10 |
| **Total BTEX** | | **0.0521** | 0.00990 | mg/kg | 10.22.19 11.03 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 10.22.19 11.03 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 11.03 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS11** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-011 | Date Collected: | 10.21.19 14.12 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **49.2** | 10.0 | mg/kg | 10.21.19 22.45 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.21.19 21.48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1120** | 50.1 | mg/kg | 10.21.19 21.48 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **152** | 50.1 | mg/kg | 10.21.19 21.48 | | 1 |
| **Total GRO-DRO** | PHC628 | **1120** | 50.1 | mg/kg | 10.21.19 21.48 | | 1 |
| **Total TPH** | PHC635 | **1270** | 50.1 | mg/kg | 10.21.19 21.48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 10.21.19 21.48 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 10.21.19 21.48 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS11** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-011 | Date Collected: | 10.21.19 14.12 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |
| Toluene | 108-88-3 | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0200 | 0.0200 | mg/kg | 10.22.19 11.23 | U | 10 |
| o-Xylene | 95-47-6 | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |
| Total Xylenes | 1330-20-7 | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |
| Total BTEX | | <0.0100 | 0.0100 | mg/kg | 10.22.19 11.23 | U | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 128 | % | 70-130 | 10.22.19 11.23 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 11.23 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS12** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-012 | Date Collected: | 10.21.19 14.13 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **41.4** | 9.86 | mg/kg | 10.21.19 23.24 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.22.19 09.49 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2010** | 49.9 | mg/kg | 10.22.19 09.49 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **267** | 49.9 | mg/kg | 10.22.19 09.49 | | 1 |
| **Total GRO-DRO** | PHC628 | **2010** | 49.9 | mg/kg | 10.22.19 09.49 | | 1 |
| **Total TPH** | PHC635 | **2280** | 49.9 | mg/kg | 10.22.19 09.49 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 10.22.19 09.49 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 10.22.19 09.49 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS12** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-012 | Date Collected: | 10.21.19 14.13 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 10.22.19 01.27 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 10.22.19 01.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 10.22.19 01.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 01.27 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00228** | 0.000998 | mg/kg | 10.22.19 01.27 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00228** | 0.000998 | mg/kg | 10.22.19 01.27 | | 1 |
| **Total BTEX** | | **0.00228** | 0.000998 | mg/kg | 10.22.19 01.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 01.27 | |
| 4-Bromofluorobenzene | 460-00-4 | 134 | % | 70-130 | 10.22.19 01.27 | ** |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH01A** Matrix: Soil Date Received:10.21.19 16.35

Lab Sample Id: 640592-013 Date Collected: 10.16.19 11.45 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight

Seq Number: 3104962

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 23.22 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.21.19 16.00 Basis: Wet Weight

Seq Number: 3104978

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.21.19 22.08 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **111** | 50.2 | mg/kg | 10.21.19 22.08 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.21.19 22.08 | U | 1 |
| **Total GRO-DRO** | PHC628 | **111** | 50.2 | mg/kg | 10.21.19 22.08 | | 1 |
| **Total TPH** | PHC635 | **111** | 50.2 | mg/kg | 10.21.19 22.08 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 10.21.19 22.08 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 10.21.19 22.08 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-013 | Date Collected: | 10.16.19 11.45 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 10.22.19 01.47 | U | 1 |
| **Toluene** | 108-88-3 | **0.00527** | 0.000994 | mg/kg | 10.22.19 01.47 | | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 10.22.19 01.47 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00457** | 0.00199 | mg/kg | 10.22.19 01.47 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00268** | 0.000994 | mg/kg | 10.22.19 01.47 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00725** | 0.000994 | mg/kg | 10.22.19 01.47 | | 1 |
| **Total BTEX** | | **0.0125** | 0.000994 | mg/kg | 10.22.19 01.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 10.22.19 01.47 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 01.47 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-014 | Date Collected: | 10.16.19 11.59 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 23.28 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.21.19 22.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **57.9** | 50.3 | mg/kg | 10.21.19 22.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.21.19 22.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **57.9** | 50.3 | mg/kg | 10.21.19 22.27 | | 1 |
| **Total TPH** | PHC635 | **57.9** | 50.3 | mg/kg | 10.21.19 22.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-135 | 10.21.19 22.27 | |
| o-Terphenyl | 84-15-1 | 82 | % | 70-135 | 10.21.19 22.27 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-014 | Date Collected: | 10.16.19 11.59 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.22.19 02.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |
| Total BTEX | | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 10.22.19 02.06 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 10.22.19 02.06 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-015 | Date Collected: | 10.16.19 12.11 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 23.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.21.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3104978 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.21.19 22.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **75.9** | 50.0 | mg/kg | 10.21.19 22.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.21.19 22.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **75.9** | 50.0 | mg/kg | 10.21.19 22.27 | | 1 |
| **Total TPH** | PHC635 | **75.9** | 50.0 | mg/kg | 10.21.19 22.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 10.21.19 22.27 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.21.19 22.27 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-015 | Date Collected: | 10.16.19 12.11 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.22.19 02.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 10.22.19 02.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 10.22.19 02.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 10.22.19 02.25 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-016 | Date Collected: | 10.16.19 12.43 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 23.41 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 10.22.19 13.42 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.22.19 13.42 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-016 | Date Collected: | 10.16.19 12.43 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.22.19 02.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |
| Total BTEX | | <0.000996 | 0.000996 | mg/kg | 10.22.19 02.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 02.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 02.44 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-017 | Date Collected: | 10.16.19 13.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **282** | 50.0 | mg/kg | 10.21.19 23.47 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 13.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 10.22.19 13.42 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 10.22.19 13.42 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-017 | Date Collected: | 10.16.19 13.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 03.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.22.19 03.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 03.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 126 | % | 70-130 | 10.22.19 03.03 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-018 | Date Collected: | 10.21.19 09.19 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.21.19 23.53 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 14.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 14.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 14.02 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 14.02 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 14.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.22.19 14.02 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 10.22.19 14.02 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-018 | Date Collected: | 10.21.19 09.19 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.22.19 03.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.22.19 03.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 03.22 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 03.22 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-019 | Date Collected: | 10.21.19 09.54 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **27.3** | 10.0 | mg/kg | 10.22.19 00.00 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 14.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.22.19 14.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 14.02 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.22.19 14.02 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.22.19 14.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.22.19 14.02 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.22.19 14.02 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-019 | Date Collected: | 10.21.19 09.54 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.22.19 03.41 | U | 1 |
| o-Xylene | 95-47-6 | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |
| Total BTEX | | <0.000996 | 0.000996 | mg/kg | 10.22.19 03.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 10.22.19 03.41 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.22.19 03.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-020 | Date Collected: | 10.21.19 10.23 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3104962 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.22.19 00.06 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 10.22.19 14.21 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 10.22.19 14.21 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-020 | Date Collected: | 10.21.19 10.23 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3104979 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.22.19 04.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.22.19 04.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 10.22.19 04.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 10.22.19 04.00 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-021 | Date Collected: | 10.21.19 10.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.22.19 09.04 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.22.19 14.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 10.22.19 14.21 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 10.22.19 14.21 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-021 | Date Collected: | 10.21.19 10.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 07.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.22.19 07.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 10.22.19 07.06 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 07.06 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-022 | Date Collected: | 10.21.19 11.56 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.2** | 9.88 | mg/kg | 10.22.19 09.34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 14.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.22.19 14.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 14.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.22.19 14.41 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.22.19 14.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 10.22.19 14.41 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 10.22.19 14.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-022 | Date Collected: | 10.21.19 11.56 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |
| Toluene | 108-88-3 | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.22.19 07.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |
| Total BTEX | | <0.000988 | 0.000988 | mg/kg | 10.22.19 07.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 10.22.19 07.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 10.22.19 07.25 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-023 | Date Collected: | 10.21.19 12.56 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **15.6** | 9.98 | mg/kg | 10.22.19 09.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 14.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 14.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 14.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 14.41 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 14.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.22.19 14.41 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 10.22.19 14.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-023 | Date Collected: | 10.21.19 12.56 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000986 | 0.000986 | mg/kg | 10.22.19 07.44 | U | 1 |
| Toluene | 108-88-3 | <0.000986 | 0.000986 | mg/kg | 10.22.19 07.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000986 | 0.000986 | mg/kg | 10.22.19 07.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00197 | 0.00197 | mg/kg | 10.22.19 07.44 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00207** | 0.000986 | mg/kg | 10.22.19 07.44 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00207** | 0.000986 | mg/kg | 10.22.19 07.44 | | 1 |
| **Total BTEX** | | **0.00207** | 0.000986 | mg/kg | 10.22.19 07.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 10.22.19 07.44 | |
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 07.44 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH12A** Matrix: Soil Date Received:10.21.19 16.35

Lab Sample Id: 640592-024 Date Collected: 10.21.19 13.05 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight

Seq Number: 3105031

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 10.22.19 09.46 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.22.19 11.30 Basis: Wet Weight

Seq Number: 3105059

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 15.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.22.19 15.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.22.19 15.01 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.22.19 15.01 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.22.19 15.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 10.22.19 15.01 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 10.22.19 15.01 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH12A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-024 | Date Collected: | 10.21.19 13.05 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.22.19 08.03 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.22.19 08.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.22.19 08.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.22.19 08.03 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00139** | 0.00101 | mg/kg | 10.22.19 08.03 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00139** | 0.00101 | mg/kg | 10.22.19 08.03 | | 1 |
| **Total BTEX** | | **0.00139** | 0.00101 | mg/kg | 10.22.19 08.03 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 10.22.19 08.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 10.22.19 08.03 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH13A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-025 | Date Collected: | 10.21.19 13.19 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.0** | 9.94 | mg/kg | 10.22.19 09.52 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 15.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 15.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 15.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 15.21 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 15.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 10.22.19 15.21 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 10.22.19 15.21 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH13A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-025 | Date Collected: | 10.21.19 13.19 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 08.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.22.19 08.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.22.19 08.22 | |
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 08.22 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH14A** Matrix: Soil Date Received:10.21.19 16.35

Lab Sample Id: 640592-026 Date Collected: 10.21.19 13.31 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight

Seq Number: 3105031

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 10.22.19 10.44 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.22.19 11.30 Basis: Wet Weight

Seq Number: 3105059

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 15.21 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **174** | 50.0 | mg/kg | 10.22.19 15.21 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 15.21 | U | 1 |
| **Total GRO-DRO** | PHC628 | **174** | 50.0 | mg/kg | 10.22.19 15.21 | | 1 |
| **Total TPH** | PHC635 | **174** | 50.0 | mg/kg | 10.22.19 15.21 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 10.22.19 15.21 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 10.22.19 15.21 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH14A** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-026 | Date Collected: | 10.21.19 13.31 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 08.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 10.22.19 08.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 10.22.19 08.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 10.22.19 08.43 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-027 | Date Collected: | 10.16.19 11.46 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.96 | 9.96 | mg/kg | 10.22.19 10.50 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 15.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.22.19 15.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.22.19 15.41 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.22.19 15.41 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.22.19 15.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 10.22.19 15.41 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 10.22.19 15.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-027 | Date Collected: | 10.16.19 11.46 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.00 | U | 1 |
| **Toluene** | 108-88-3 | **0.00178** | 0.00100 | mg/kg | 10.22.19 09.00 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.22.19 09.00 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00286** | 0.00100 | mg/kg | 10.22.19 09.00 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00286** | 0.00100 | mg/kg | 10.22.19 09.00 | | 1 |
| **Total BTEX** | | **0.00464** | 0.00100 | mg/kg | 10.22.19 09.00 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 09.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 10.22.19 09.00 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-028 | Date Collected: | 10.16.19 12.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 10.22.19 10.56 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 15.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.22.19 15.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 15.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.22.19 15.41 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.22.19 15.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.22.19 15.41 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 10.22.19 15.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-028 | Date Collected: | 10.16.19 12.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 10.22.19 09.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 10.22.19 09.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.22.19 09.20 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 10.22.19 09.20 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH03B** Matrix: Soil Date Received:10.21.19 16.35

Lab Sample Id: 640592-029 Date Collected: 10.16.19 12.12 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.21.19 18.10 Basis: Wet Weight

Seq Number: 3105031

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 10.22.19 11.02 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.22.19 11.30 Basis: Wet Weight

Seq Number: 3105059

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 16.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.22.19 16.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 16.01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.22.19 16.01 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.22.19 16.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 10.22.19 16.01 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.22.19 16.01 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-029 | Date Collected: | 10.16.19 12.12 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 09.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.22.19 09.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 09.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 09.39 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-030 | Date Collected: | 10.16.19 12.44 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.2** | 10.0 | mg/kg | 10.22.19 11.09 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 16.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.22.19 16.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 16.01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.22.19 16.01 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.22.19 16.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 10.22.19 16.01 | |
| o-Terphenyl | 84-15-1 | 82 | % | 70-135 | 10.22.19 16.01 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-030 | Date Collected: | 10.16.19 12.44 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 09.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 10.22.19 09.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.22.19 09.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 10.22.19 09.58 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-031 | Date Collected: | 10.16.19 13.01 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **77.0** | 10.0 | mg/kg | 10.22.19 11.15 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 18.02 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **544** | 49.8 | mg/kg | 10.22.19 18.02 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **159** | 49.8 | mg/kg | 10.22.19 18.02 | | 1 |
| **Total GRO-DRO** | PHC628 | **544** | 49.8 | mg/kg | 10.22.19 18.02 | | 1 |
| **Total TPH** | PHC635 | **703** | 49.8 | mg/kg | 10.22.19 18.02 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.22.19 18.02 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 10.22.19 18.02 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-031 | Date Collected: | 10.16.19 13.01 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 10.22.19 13.16 | U | 1 |
| **Toluene** | 108-88-3 | **0.00117** | 0.000992 | mg/kg | 10.22.19 13.16 | | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 10.22.19 13.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.22.19 13.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 10.22.19 13.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 10.22.19 13.16 | U | 1 |
| **Total BTEX** | | **0.00117** | 0.000992 | mg/kg | 10.22.19 13.16 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 13.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 10.22.19 13.16 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-032 | Date Collected: | 10.21.19 09.20 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **41.6** | 9.94 | mg/kg | 10.22.19 11.34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 16.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.22.19 16.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 16.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.22.19 16.21 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.22.19 16.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 10.22.19 16.21 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.22.19 16.21 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-032 | Date Collected: | 10.21.19 09.20 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |
| Toluene | 108-88-3 | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00197 | 0.00197 | mg/kg | 10.22.19 13.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |
| Total BTEX | | <0.000986 | 0.000986 | mg/kg | 10.22.19 13.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.22.19 13.35 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 10.22.19 13.35 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-033 | Date Collected: | 10.21.19 09.55 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **237** | 9.96 | mg/kg | 10.22.19 12.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.22.19 16.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.22.19 16.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.22.19 16.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.22.19 16.41 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.22.19 16.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 10.22.19 16.41 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.22.19 16.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-033 | Date Collected: | 10.21.19 09.55 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 13.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 10.22.19 13.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 10.22.19 13.54 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.22.19 13.54 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-034 | Date Collected: | 10.21.19 10.24 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.3** | 9.94 | mg/kg | 10.22.19 13.01 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3105059 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 16.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.22.19 16.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.22.19 16.41 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.22.19 16.41 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.22.19 16.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 10.22.19 16.41 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.22.19 16.41 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-034 | Date Collected: | 10.21.19 10.24 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 10.22.19 14.13 | U | 1 |
| Toluene | 108-88-3 | <0.000992 | 0.000992 | mg/kg | 10.22.19 14.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 10.22.19 14.13 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00516** | 0.00198 | mg/kg | 10.22.19 14.13 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00154** | 0.000992 | mg/kg | 10.22.19 14.13 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00670** | 0.000992 | mg/kg | 10.22.19 14.13 | | 1 |
| **Total BTEX** | | **0.00670** | 0.000992 | mg/kg | 10.22.19 14.13 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 130 | % | 70-130 | 10.22.19 14.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.22.19 14.13 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-035 | Date Collected: | 10.21.19 10.51 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 10.22.19 13.07 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 17.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.22.19 17.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 17.42 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.22.19 17.42 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.22.19 17.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 10.22.19 17.42 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 10.22.19 17.42 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-035 | Date Collected: | 10.21.19 10.51 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |
| Toluene | 108-88-3 | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.22.19 14.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |
| Total BTEX | | <0.000988 | 0.000988 | mg/kg | 10.22.19 14.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.22.19 14.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 10.22.19 14.32 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-036 | Date Collected: | 10.21.19 11.57 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **224** | 9.82 | mg/kg | 10.22.19 13.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 18.24 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **71.3** | 50.0 | mg/kg | 10.22.19 18.24 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 18.24 | U | 1 |
| **Total GRO-DRO** | PHC628 | **71.3** | 50.0 | mg/kg | 10.22.19 18.24 | | 1 |
| **Total TPH** | PHC635 | **71.3** | 50.0 | mg/kg | 10.22.19 18.24 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 10.22.19 18.24 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 10.22.19 18.24 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-036 | Date Collected: | 10.21.19 11.57 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.22.19 14.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.22.19 14.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 14.52 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.22.19 14.52 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-037 | Date Collected: | 10.21.19 12.57 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.2** | 9.92 | mg/kg | 10.22.19 13.20 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.22.19 18.44 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **56.8** | 50.1 | mg/kg | 10.22.19 18.44 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.22.19 18.44 | U | 1 |
| **Total GRO-DRO** | PHC628 | **56.8** | 50.1 | mg/kg | 10.22.19 18.44 | | 1 |
| **Total TPH** | PHC635 | **56.8** | 50.1 | mg/kg | 10.22.19 18.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 10.22.19 18.44 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.22.19 18.44 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-037 | Date Collected: | 10.21.19 12.57 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.22.19 15.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 10.22.19 15.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 10.22.19 15.11 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH12B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-038 | Date Collected: | 10.21.19 13.06 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 10.22.19 13.26 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.22.19 18.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.22.19 18.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.22.19 18.44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.22.19 18.44 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.22.19 18.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 10.22.19 18.44 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 10.22.19 18.44 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH12B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-038 | Date Collected: | 10.21.19 13.06 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.22.19 15.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.22.19 15.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.22.19 15.30 | |
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 10.22.19 15.30 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH13B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-039 | Date Collected: | 10.21.19 13.20 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **35.8** | 9.98 | mg/kg | 10.22.19 13.32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.22.19 19.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.22.19 19.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.22.19 19.04 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.22.19 19.04 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.22.19 19.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 10.22.19 19.04 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 10.22.19 19.04 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH13B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-039 | Date Collected: | 10.21.19 13.20 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |
| Toluene | 108-88-3 | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00197 | 0.00197 | mg/kg | 10.22.19 15.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |
| Total BTEX | | <0.000986 | 0.000986 | mg/kg | 10.22.19 15.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.22.19 15.49 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.22.19 15.49 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH14B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-040 | Date Collected: | 10.21.19 13.32 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105031 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **34.3** | 9.88 | mg/kg | 10.22.19 13.38 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.22.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3105061 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.22.19 19.04 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **74.8** | 50.2 | mg/kg | 10.22.19 19.04 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.22.19 19.04 | U | 1 |
| **Total GRO-DRO** | PHC628 | **74.8** | 50.2 | mg/kg | 10.22.19 19.04 | | 1 |
| **Total TPH** | PHC635 | **74.8** | 50.2 | mg/kg | 10.22.19 19.04 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 10.22.19 19.04 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 10.22.19 19.04 | |

# Certificate of Analytical Results 640592

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH14B** | Matrix: | Soil | Date Received: | 10.21.19 16.35 |
| Lab Sample Id: | 640592-040 | Date Collected: | 10.21.19 13.32 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.21.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105054 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.22.19 16.08 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 10.22.19 16.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 128 | % | 70-130 | 10.22.19 16.08 | |
| 1,4-Difluorobenzene | 540-36-3 | 94 | % | 70-130 | 10.22.19 16.08 | |

# 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

# QC Summary 640592



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104962 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688571-1-BLK — LCS Sample Id: 7688571-1-BKS — LCSD Sample Id: 7688571-1-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 | 273 | 109 | 273 | 109 | 90-110 | 0 | 20 | mg/kg | 10.21.19 21:04 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105031 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688572-1-BLK — LCS Sample Id: 7688572-1-BKS — LCSD Sample Id: 7688572-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 268 | 107 | 275 | 110 | 90-110 | 3 | 20 | mg/kg | 10.22.19 08:50 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104962 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640592-001 — MS Sample Id: 640592-001 S — MSD Sample Id: 640592-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 17.7 | 251 | 239 | 88 | 240 | 88 | 90-110 | 0 | 20 | mg/kg | 10.21.19 21:23 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104962 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640592-011 — MS Sample Id: 640592-011 S — MSD Sample Id: 640592-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 49.2 | 249 | 286 | 95 | 279 | 92 | 90-110 | 2 | 20 | mg/kg | 10.21.19 22:51 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105031 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640592-021 — MS Sample Id: 640592-021 S — MSD Sample Id: 640592-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 201 | 217 | 108 | 213 | 107 | 90-110 | 2 | 20 | mg/kg | 10.22.19 09:11 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 640592



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105031 Matrix: Soil Date Prep: 10.21.19
Parent Sample Id: 640592-031 MS Sample Id: 640592-031 S MSD Sample Id: 640592-031 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 77.0 | 251 | 316 | 95 | 318 | 96 | 90-110 | 1 | 20 | mg/kg | 10.22.19 11:21 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3104978 Matrix: Solid Date Prep: 10.21.19
MB Sample Id: 7688582-1-BLK LCS Sample Id: 7688582-1-BKS LCSD Sample Id: 7688582-1-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 | 888 | 89 | 913 | 91 | 70-135 | 3 | 35 | mg/kg | 10.21.19 18:30 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 816 | 82 | 825 | 83 | 70-135 | 1 | 35 | mg/kg | 10.21.19 18:30 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 90 | | 118 | | 109 | | 70-135 | % | 10.21.19 18:30 |
| o-Terphenyl | 94 | | 112 | | 106 | | 70-135 | % | 10.21.19 18:30 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3105059 Matrix: Solid Date Prep: 10.22.19
MB Sample Id: 7688633-1-BLK LCS Sample Id: 7688633-1-BKS LCSD Sample Id: 7688633-1-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 | 873 | 87 | 884 | 88 | 70-135 | 1 | 35 | mg/kg | 10.22.19 12:42 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 813 | 81 | 832 | 83 | 70-135 | 2 | 35 | mg/kg | 10.22.19 12:42 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 83 | | 91 | | 92 | | 70-135 | % | 10.22.19 12:42 |
| o-Terphenyl | 80 | | 86 | | 87 | | 70-135 | % | 10.22.19 12:42 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3105061 Matrix: Solid Date Prep: 10.22.19
MB Sample Id: 7688636-1-BLK LCS Sample Id: 7688636-1-BKS LCSD Sample Id: 7688636-1-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 | 930 | 93 | 906 | 91 | 70-135 | 3 | 35 | mg/kg | 10.22.19 17:22 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 811 | 81 | 841 | 84 | 70-135 | 4 | 35 | mg/kg | 10.22.19 17:22 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 81 | | 95 | | 95 | | 70-135 | % | 10.22.19 17:22 |
| o-Terphenyl | 80 | | 87 | | 90 | | 70-135 | % | 10.22.19 17:22 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 640592



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104978 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688582-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.21.19 18:30 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105059 — Matrix: Solid — Date Prep: 10.22.19
MB Sample Id: 7688633-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.22.19 12:22 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105061 — Matrix: Solid — Date Prep: 10.22.19
MB Sample Id: 7688636-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.22.19 17:01 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104978 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640498-002 — MS Sample Id: 640498-002 S — MSD Sample Id: 640498-002 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) | <50.6 | 1010 | 852 | 84 | 866 | 86 | 70-135 | 2 | 35 | mg/kg | 10.21.19 19:09 | |
| Diesel Range Organics (DRO) | <50.6 | 1010 | 774 | 77 | 799 | 79 | 70-135 | 3 | 35 | mg/kg | 10.21.19 19:09 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 84 | | 100 | | 70-135 | % | 10.21.19 19:09 |
| o-Terphenyl | 81 | | 86 | | 70-135 | % | 10.21.19 19:09 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 640592



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105059 — Matrix: Soil — Date Prep: 10.22.19
Parent Sample Id: 640592-001 — MS Sample Id: 640592-001 S — MSD Sample Id: 640592-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <49.8 | 996 | 893 | 90 | 929 | 93 | 70-135 | 4 | 35 | mg/kg | 10.22.19 13:22 | |
| Diesel Range Organics (DRO) | <49.8 | 996 | 792 | 80 | 863 | 86 | 70-135 | 9 | 35 | mg/kg | 10.22.19 13:22 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 99 | | 117 | | 70-135 | % | 10.22.19 13:22 |
| o-Terphenyl | 90 | | 99 | | 70-135 | % | 10.22.19 13:22 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105061 — Matrix: Soil — Date Prep: 10.22.19
Parent Sample Id: 640592-035 — MS Sample Id: 640592-035 S — MSD Sample Id: 640592-035 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 887 | 89 | 906 | 91 | 70-135 | 2 | 35 | mg/kg | 10.22.19 17:42 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 827 | 83 | 933 | 93 | 70-135 | 12 | 35 | mg/kg | 10.22.19 17:42 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 102 | | 70-135 | % | 10.22.19 17:42 |
| o-Terphenyl | 92 | | 96 | | 70-135 | % | 10.22.19 17:42 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104979 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688606-1-BLK — LCS Sample Id: 7688606-1-BKS — LCSD Sample Id: 7688606-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.103 | 103 | 0.0993 | 99 | 70-130 | 4 | 35 | mg/kg | 10.21.19 19:24 | |
| Toluene | <0.00100 | 0.100 | 0.104 | 104 | 0.100 | 100 | 70-130 | 4 | 35 | mg/kg | 10.21.19 19:24 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.105 | 105 | 0.102 | 102 | 71-129 | 3 | 35 | mg/kg | 10.21.19 19:24 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.229 | 115 | 0.222 | 111 | 70-135 | 3 | 35 | mg/kg | 10.21.19 19:24 | |
| o-Xylene | <0.00100 | 0.100 | 0.113 | 113 | 0.110 | 110 | 71-133 | 3 | 35 | mg/kg | 10.21.19 19:24 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 103 | | 103 | | 70-130 | % | 10.21.19 19:24 |
| 4-Bromofluorobenzene | 114 | | 116 | | 118 | | 70-130 | % | 10.21.19 19:24 |

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



Final 1.000

# QC Summary 640592

## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105054 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688609-1-BLK — LCS Sample Id: 7688609-1-BKS — LCSD Sample Id: 7688609-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0915 | 92 | 0.102 | 102 | 70-130 | 11 | 35 | mg/kg | 10.22.19 05:23 | |
| Toluene | <0.000500 | 0.100 | 0.0903 | 90 | 0.0991 | 99 | 70-130 | 9 | 35 | mg/kg | 10.22.19 05:23 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0886 | 89 | 0.0974 | 97 | 71-129 | 9 | 35 | mg/kg | 10.22.19 05:23 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.190 | 95 | 0.209 | 105 | 70-135 | 10 | 35 | mg/kg | 10.22.19 05:23 | |
| o-Xylene | <0.00100 | 0.100 | 0.0971 | 97 | 0.107 | 107 | 71-133 | 10 | 35 | mg/kg | 10.22.19 05:23 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 102 | | 106 | | 70-130 | % | 10.22.19 05:23 |
| 4-Bromofluorobenzene | 114 | | 116 | | 117 | | 70-130 | % | 10.22.19 05:23 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104979 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640592-001 — MS Sample Id: 640592-001 S — MSD Sample Id: 640592-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00101 | 0.101 | 0.0993 | 98 | 0.0893 | 88 | 70-130 | 11 | 35 | mg/kg | 10.21.19 20:02 | |
| Toluene | <0.00101 | 0.101 | 0.0988 | 98 | 0.0901 | 89 | 70-130 | 9 | 35 | mg/kg | 10.21.19 20:02 | |
| Ethylbenzene | <0.00101 | 0.101 | 0.0979 | 97 | 0.0900 | 89 | 71-129 | 8 | 35 | mg/kg | 10.21.19 20:02 | |
| m,p-Xylenes | <0.00202 | 0.202 | 0.213 | 105 | 0.196 | 97 | 70-135 | 8 | 35 | mg/kg | 10.21.19 20:02 | |
| o-Xylene | <0.00101 | 0.101 | 0.106 | 105 | 0.0977 | 97 | 71-133 | 8 | 35 | mg/kg | 10.21.19 20:02 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 105 | | 105 | | 70-130 | % | 10.21.19 20:02 |
| 4-Bromofluorobenzene | 125 | | 122 | | 70-130 | % | 10.21.19 20:02 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105054 — Matrix: Soil — Date Prep: 10.21.19
Parent Sample Id: 640592-021 — MS Sample Id: 640592-021 S — MSD Sample Id: 640592-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0937 | 94 | 0.0924 | 91 | 70-130 | 1 | 35 | mg/kg | 10.22.19 06:01 | |
| Toluene | <0.00100 | 0.100 | 0.0887 | 89 | 0.0885 | 88 | 70-130 | 0 | 35 | mg/kg | 10.22.19 06:01 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0860 | 86 | 0.0867 | 86 | 71-129 | 1 | 35 | mg/kg | 10.22.19 06:01 | |
| m,p-Xylenes | <0.00201 | 0.201 | 0.184 | 92 | 0.186 | 92 | 70-135 | 1 | 35 | mg/kg | 10.22.19 06:01 | |
| o-Xylene | <0.00100 | 0.100 | 0.0958 | 96 | 0.0957 | 95 | 71-133 | 0 | 35 | mg/kg | 10.22.19 06:01 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 104 | | 70-130 | % | 10.22.19 06:01 |
| 4-Bromofluorobenzene | 124 | | 126 | | 70-130 | % | 10.22.19 06:01 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 640592

XENCO LABORATORIES

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 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lee County | Rush: 24hr | |
| Sampler's Name: | William Mather | Due Date: 10/22 | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Temperature (°C): | 4.0 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 40 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS01 | S | 10/16/19 | 9:48 | .5' | 1 | x | x | x |
| FS02 | | | 14:51 | | 1 | x | x | x |
| FS03 | | | 14:52 | | 1 | x | x | x |
| FS04 | | | 14:53 | | 1 | x | x | x |
| FS05 | | | 14:54 | | 1 | x | x | x |
| FS06 | | | 14:55 | | 1 | x | x | x |
| FS07 | | | 14:56 | | 1 | x | x | x |
| FS08 | | | 14:57 | | 1 | x | x | x |
| FS09 | | 10/21/19 | 14:10 | | 1 | x | x | x |
| ~~FS10~~ FS10 | | 10/21/19 | 14:11 | | 1 | x | x | x |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

~~discrete~~ WM
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 Tl 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 **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 |
|---|---|---|---|---|---|
| 1 | | 10/21/19 14:35 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 640992

XENCO LABORATORIES

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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 (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lee County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

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

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS 11 | S | 10/21/19 | 14:12 | .5' | 1 | x | x | x | ~~discrete~~ HM COMPOSITE |
| FS 12 | S | 10/21/19 | 14:13 | .5' | 1 | x | x | x | ~~discrete~~ HM COMPOSITE |
| BH01A | S | 10/16/19 | 11:45 | 1' | 1 | x | x | x | discrete |
| BA02A | S | | 11:59 | | 1 | x | x | x | |
| BH03A | S | | 12:11 | | 1 | x | x | x | |
| BH04A | S | | 12:43 | | 1 | x | x | x | |
| BH05A | S | | 13:00 | | 1 | x | x | x | |
| BH06A | S | 10/21/19 | 9:19 | | 1 | x | x | x | |
| BH07A | S | | 9:54 | | 1 | x | x | x | |
| BH08A | S | | 10:23 | | 1 | x | x | x | |

**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl 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 **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 |
|---|---|---|---|---|---|
| | | 10/21/19 16:35 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 640592

XENCO LABORATORIES

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lee County | 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 | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH09A | S | 10/2/19 | 10:50 | 1' | 1 | x | x | x | discrete |
| BH10A | S | | 11:56 | | 1 | x | x | x | |
| BH11A | S | | 12:56 | | 1 | x | x | x | |
| BH12A | S | | ~~BH~~ 13:05 | | 1 | x | x | x | |
| BH13A | S | | 13:19 | | 1 | x | x | x | |
| BH14A | S | | 13:31 | | 1 | x | x | x | |
| BH01B | S | 10/16/19 | 11:40 | 2' | 1 | x | x | x | |
| BH02B | S | | 12:00 | | 1 | x | x | x | |
| BH03B | S | | 12:12 | | 1 | x | x | x | |
| BH04B | S | | 12:44 | | 1 | x | x | x | |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 10/21/19 10:35 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 640592

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
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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 |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lee County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | | Thermometer ID | see B9 |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH05B | S | 10/16/19 | 13:01 | 2' | 1 | x | x | x | discrete |
| BH06B | S | 10/21/19 | 9:20 | | 1 | x | x | x | |
| BH07B | S | | 9:55 | | 1 | x | x | x | |
| BH08B | S | | 10:24 | | 1 | x | x | x | |
| BH09B | S | | 10:51 | | 1 | x | x | x | |
| BH10B | S | | 11:57 | | 1 | x | x | x | |
| BH11B | S | | 12:57 | | 1 | x | x | x | |
| BH12B | S | | 13:06 | | 1 | x | x | x | |
| BH13B | S | | 13:20 | | 1 | x | x | x | |
| BH14B | S | | 13:32 | | 1 | x | x | x | |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 10/21/19 10:35 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM
Final 1.000
Page 101 of 102

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/21/2019 04:35:00 PM

**Work Order #:** 640592

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 4 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **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: 10/21/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/22/2019

Jessica Kramer

# Analytical Report 640879

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**24-OCT-19**

Collected By: Client

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

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

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

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

24-OCT-19

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

Reference: XENCO Report No(s): **640879**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 640879. 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. 640879 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH15A | S | 10-22-19 09:14 | 1 ft | 640879-001 |
| BH16A | S | 10-22-19 09:16 | 1 ft | 640879-002 |
| BH15B | S | 10-22-19 09:15 | 2 ft | 640879-003 |
| BH16B | S | 10-22-19 09:17 | 2 ft | 640879-004 |
| FS13 | S | 10-23-19 09:38 | 0.5 ft | 640879-005 |
| FS14 | S | 10-23-19 09:40 | 0.5 ft | 640879-006 |
| FS15 | S | 10-23-19 10:15 | 1 ft | 640879-007 |
| FS16 | S | 10-23-19 10:17 | 1 ft | 640879-008 |
| FS17 | S | 10-23-19 11:54 | 1 ft | 640879-009 |
| FS18 | S | 10-23-19 11:56 | 1 ft | 640879-010 |
| FS19 | S | 10-23-19 14:31 | 0.5 ft | 640879-011 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *640879*

Report Date: *24-OCT-19*
Date Received: *10/23/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3105305 BTEX by EPA 8021B
Lab Sample ID 640879-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640879-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 640879-009.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 640879

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Wed Oct-23-19 04:25 pm
**Report Date:** 24-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640879-001 | | 640879-002 | | 640879-003 | | 640879-004 | | 640879-005 | | 640879-006 | |
| | ***Field Id:*** | BH15A | | BH16A | | BH15B | | BH16B | | FS13 | | FS14 | |
| | ***Depth:*** | 1- ft | | 1- ft | | 2- ft | | 2- ft | | 0.5- ft | | 0.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-22-19 09:14 | | Oct-22-19 09:16 | | Oct-22-19 09:15 | | Oct-22-19 09:17 | | Oct-23-19 09:38 | | Oct-23-19 09:40 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | |
| | ***Analyzed:*** | Oct-24-19 04:32 | | Oct-24-19 04:52 | | Oct-24-19 05:12 | | Oct-24-19 05:33 | | Oct-24-19 05:53 | | Oct-24-19 06:14 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Toluene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | |
| | ***Analyzed:*** | Oct-23-19 22:39 | | Oct-23-19 22:59 | | Oct-23-19 23:06 | | Oct-23-19 23:13 | | Oct-23-19 23:19 | | Oct-23-19 23:40 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 29.2 D | 9.88 | 12.2 | 10.0 | 13.5 | 10.0 | 11.2 | 10.0 | 716 | 49.9 | 368 | 49.8 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | |
| | ***Analyzed:*** | Oct-24-19 01:32 | | Oct-24-19 01:53 | | Oct-24-19 02:13 | | Oct-24-19 02:33 | | Oct-24-19 03:12 | | Oct-24-19 03:32 | |
| | ***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 | <50.1 | 50.1 | <50.3 | 50.3 | <50.3 | 50.3 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | 595 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | 2830 | 50.3 | 2850 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | 75.4 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | 325 | 50.3 | 372 | 50.1 |
| Total GRO-DRO | | 595 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | 2830 | 50.3 | 2850 | 50.1 |
| Total TPH | | 670 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | 3160 | 50.3 | 3220 | 50.1 |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640879

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Wed Oct-23-19 04:25 pm
**Report Date:** 24-OCT-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640879-007 | | 640879-008 | | 640879-009 | | 640879-010 | | 640879-011 | |
| | ***Field Id:*** | FS15 | | FS16 | | FS17 | | FS18 | | FS19 | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 0.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-23-19 10:15 | | Oct-23-19 10:17 | | Oct-23-19 11:54 | | Oct-23-19 11:56 | | Oct-23-19 14:31 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | |
| | ***Analyzed:*** | Oct-24-19 06:34 | | Oct-24-19 06:54 | | Oct-24-19 07:15 | | Oct-24-19 07:35 | | Oct-24-19 08:50 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.100 | 0.100 | 0.00162 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| Toluene | | <0.100 | 0.100 | 0.0237 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| Ethylbenzene | | 0.258 | 0.100 | 0.0737 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| m,p-Xylenes | | 0.259 | 0.200 | 0.135 | 0.00202 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00198 | 0.00198 |
| o-Xylene | | 0.382 | 0.100 | 0.0763 | 0.00101 | 0.00840 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| Total Xylenes | | 0.641 | 0.100 | 0.211 | 0.00101 | 0.00840 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| Total BTEX | | 0.899 | 0.100 | 0.310 | 0.00101 | 0.00840 | 0.00101 | <0.00101 | 0.00101 | <0.000992 | 0.000992 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | | Oct-23-19 18:10 | |
| | ***Analyzed:*** | Oct-23-19 23:46 | | Oct-23-19 23:53 | | Oct-24-19 00:00 | | Oct-24-19 00:07 | | Oct-24-19 00:13 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 11.0 | 9.94 | 48.9 | 9.82 | 28.2 D | 10.1 | 29.9 | 10.1 | 218 | 10.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | | Oct-23-19 17:00 | |
| | ***Analyzed:*** | Oct-24-19 03:52 | | Oct-24-19 04:12 | | Oct-24-19 04:32 | | Oct-24-19 04:52 | | Oct-24-19 05:12 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <250 | 250 | 93.2 | 50.2 | <50.3 | 50.3 | <50.1 | 50.1 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | 5010 | 250 | 1700 | 50.2 | 78.7 | 50.3 | 51.0 | 50.1 | 754 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | 690 | 250 | 192 | 50.2 | <50.3 | 50.3 | <50.1 | 50.1 | 102 | 50.1 |
| Total GRO-DRO | | 5010 | 250 | 1790 | 50.2 | 78.7 | 50.3 | 51.0 | 50.1 | 754 | 50.1 |
| Total TPH | | 5700 | 250 | 1990 | 50.2 | 78.7 | 50.3 | 51.0 | 50.1 | 856 | 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.



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH15A** Matrix: Soil Date Received:10.23.19 16.25

Lab Sample Id: 640879-001 Date Collected: 10.22.19 09.14 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.23.19 18.10 Basis: Wet Weight

Seq Number: 3105224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **29.2** | 9.88 | mg/kg | 10.24.19 10.35 | D | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.23.19 17.00 Basis: Wet Weight

Seq Number: 3105269

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.24.19 01.32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **595** | 50.2 | mg/kg | 10.24.19 01.32 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **75.4** | 50.2 | mg/kg | 10.24.19 01.32 | | 1 |
| **Total GRO-DRO** | PHC628 | **595** | 50.2 | mg/kg | 10.24.19 01.32 | | 1 |
| **Total TPH** | PHC635 | **670** | 50.2 | mg/kg | 10.24.19 01.32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 10.24.19 01.32 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 10.24.19 01.32 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH15A** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-001 | Date Collected: | 10.22.19 09.14 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.24.19 04.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 10.24.19 04.32 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.24.19 04.32 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH16A** Matrix: Soil Date Received:10.23.19 16.25

Lab Sample Id: 640879-002 Date Collected: 10.22.19 09.16 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.23.19 18.10 Basis: Wet Weight

Seq Number: 3105224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.2** | 10.0 | mg/kg | 10.23.19 22.59 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.23.19 17.00 Basis: Wet Weight

Seq Number: 3105269

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.24.19 01.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.24.19 01.53 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.24.19 01.53 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.24.19 01.53 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.24.19 01.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 10.24.19 01.53 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.24.19 01.53 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH16A** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-002 | Date Collected: | 10.22.19 09.16 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.24.19 04.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.24.19 04.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 10.24.19 04.52 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.24.19 04.52 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH15B** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-003 | Date Collected: | 10.22.19 09.15 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.5** | 10.0 | mg/kg | 10.23.19 23.06 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.24.19 02.13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.24.19 02.13 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.24.19 02.13 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.24.19 02.13 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.24.19 02.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-135 | 10.24.19 02.13 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 10.24.19 02.13 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH15B** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-003 | Date Collected: | 10.22.19 09.15 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.24.19 05.12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 10.24.19 05.12 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 10.24.19 05.12 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH16B** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-004 | Date Collected: | 10.22.19 09.17 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.2** | 10.0 | mg/kg | 10.23.19 23.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.24.19 02.33 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.24.19 02.33 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.24.19 02.33 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.24.19 02.33 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.24.19 02.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.24.19 02.33 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 10.24.19 02.33 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH16B** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-004 | Date Collected: | 10.22.19 09.17 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.24.19 05.33 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.24.19 05.33 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 10.24.19 05.33 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS13** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-005 | Date Collected: | 10.23.19 09.38 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **716** | 49.9 | mg/kg | 10.23.19 23.19 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.24.19 03.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2830** | 50.3 | mg/kg | 10.24.19 03.12 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **325** | 50.3 | mg/kg | 10.24.19 03.12 | | 1 |
| **Total GRO-DRO** | PHC628 | **2830** | 50.3 | mg/kg | 10.24.19 03.12 | | 1 |
| **Total TPH** | PHC635 | **3160** | 50.3 | mg/kg | 10.24.19 03.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.24.19 03.12 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 10.24.19 03.12 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS13** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-005 | Date Collected: | 10.23.19 09.38 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.24.19 05.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.24.19 05.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 10.24.19 05.53 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.24.19 05.53 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS14** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-006 | Date Collected: | 10.23.19 09.40 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **368** | 49.8 | mg/kg | 10.23.19 23.40 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.24.19 03.32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2850** | 50.1 | mg/kg | 10.24.19 03.32 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **372** | 50.1 | mg/kg | 10.24.19 03.32 | | 1 |
| **Total GRO-DRO** | PHC628 | **2850** | 50.1 | mg/kg | 10.24.19 03.32 | | 1 |
| **Total TPH** | PHC635 | **3220** | 50.1 | mg/kg | 10.24.19 03.32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.24.19 03.32 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 10.24.19 03.32 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS14** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-006 | Date Collected: | 10.23.19 09.40 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 10.24.19 06.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.24.19 06.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 10.24.19 06.14 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 10.24.19 06.14 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS15** Matrix: Soil Date Received:10.23.19 16.25

Lab Sample Id: 640879-007 Date Collected: 10.23.19 10.15 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.23.19 18.10 Basis: Wet Weight

Seq Number: 3105224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.0** | 9.94 | mg/kg | 10.23.19 23.46 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.23.19 17.00 Basis: Wet Weight

Seq Number: 3105269

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <250 | 250 | mg/kg | 10.24.19 03.52 | U | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **5010** | 250 | mg/kg | 10.24.19 03.52 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **690** | 250 | mg/kg | 10.24.19 03.52 | | 5 |
| **Total GRO-DRO** | PHC628 | **5010** | 250 | mg/kg | 10.24.19 03.52 | | 5 |
| **Total TPH** | PHC635 | **5700** | 250 | mg/kg | 10.24.19 03.52 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 10.24.19 03.52 | |
| o-Terphenyl | 84-15-1 | 127 | % | 70-135 | 10.24.19 03.52 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS15** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-007 | Date Collected: | 10.23.19 10.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.100 | 0.100 | mg/kg | 10.24.19 06.34 | U | 100 |
| Toluene | 108-88-3 | <0.100 | 0.100 | mg/kg | 10.24.19 06.34 | U | 100 |
| **Ethylbenzene** | 100-41-4 | **0.258** | 0.100 | mg/kg | 10.24.19 06.34 | | 100 |
| **m,p-Xylenes** | 179601-23-1 | **0.259** | 0.200 | mg/kg | 10.24.19 06.34 | | 100 |
| **o-Xylene** | 95-47-6 | **0.382** | 0.100 | mg/kg | 10.24.19 06.34 | | 100 |
| **Total Xylenes** | 1330-20-7 | **0.641** | 0.100 | mg/kg | 10.24.19 06.34 | | 100 |
| **Total BTEX** | | **0.899** | 0.100 | mg/kg | 10.24.19 06.34 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.24.19 06.34 | |
| 4-Bromofluorobenzene | 460-00-4 | 130 | % | 70-130 | 10.24.19 06.34 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS16** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-008 | Date Collected: | 10.23.19 10.17 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **48.9** | 9.82 | mg/kg | 10.23.19 23.53 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **93.2** | 50.2 | mg/kg | 10.24.19 04.12 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1700** | 50.2 | mg/kg | 10.24.19 04.12 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **192** | 50.2 | mg/kg | 10.24.19 04.12 | | 1 |
| **Total GRO-DRO** | PHC628 | **1790** | 50.2 | mg/kg | 10.24.19 04.12 | | 1 |
| **Total TPH** | PHC635 | **1990** | 50.2 | mg/kg | 10.24.19 04.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 10.24.19 04.12 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 10.24.19 04.12 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS16** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-008 | Date Collected: | 10.23.19 10.17 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.00162** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |
| **Toluene** | 108-88-3 | **0.0237** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0737** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.135** | 0.00202 | mg/kg | 10.24.19 06.54 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0763** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.211** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |
| **Total BTEX** | | **0.310** | 0.00101 | mg/kg | 10.24.19 06.54 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 10.24.19 06.54 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 10.24.19 06.54 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS17** Matrix: Soil Date Received:10.23.19 16.25
Lab Sample Id: 640879-009 Date Collected: 10.23.19 11.54 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 10.23.19 18.10 Basis: Wet Weight
Seq Number: 3105224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **28.2** | 10.1 | mg/kg | 10.24.19 10.41 | D | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 10.23.19 17.00 Basis: Wet Weight
Seq Number: 3105269

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.24.19 04.32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **78.7** | 50.3 | mg/kg | 10.24.19 04.32 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.24.19 04.32 | U | 1 |
| **Total GRO-DRO** | PHC628 | **78.7** | 50.3 | mg/kg | 10.24.19 04.32 | | 1 |
| **Total TPH** | PHC635 | **78.7** | 50.3 | mg/kg | 10.24.19 04.32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 10.24.19 04.32 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 10.24.19 04.32 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS17** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-009 | Date Collected: | 10.23.19 11.54 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.15 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.24.19 07.15 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00840** | 0.00101 | mg/kg | 10.24.19 07.15 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00840** | 0.00101 | mg/kg | 10.24.19 07.15 | | 1 |
| **Total BTEX** | | **0.00840** | 0.00101 | mg/kg | 10.24.19 07.15 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 10.24.19 07.15 | |
| 4-Bromofluorobenzene | 460-00-4 | 159 | % | 70-130 | 10.24.19 07.15 | ** |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS18** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-010 | Date Collected: | 10.23.19 11.56 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **29.9** | 10.1 | mg/kg | 10.24.19 00.07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.24.19 04.52 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **51.0** | 50.1 | mg/kg | 10.24.19 04.52 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.24.19 04.52 | U | 1 |
| **Total GRO-DRO** | PHC628 | **51.0** | 50.1 | mg/kg | 10.24.19 04.52 | | 1 |
| **Total TPH** | PHC635 | **51.0** | 50.1 | mg/kg | 10.24.19 04.52 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.24.19 04.52 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 10.24.19 04.52 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS18** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-010 | Date Collected: | 10.23.19 11.56 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.24.19 07.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.24.19 07.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.24.19 07.35 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 10.24.19 07.35 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS19** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-011 | Date Collected: | 10.23.19 14.31 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **218** | 10.1 | mg/kg | 10.24.19 00.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.23.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105269 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.24.19 05.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **754** | 50.1 | mg/kg | 10.24.19 05.12 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **102** | 50.1 | mg/kg | 10.24.19 05.12 | | 1 |
| **Total GRO-DRO** | PHC628 | **754** | 50.1 | mg/kg | 10.24.19 05.12 | | 1 |
| **Total TPH** | PHC635 | **856** | 50.1 | mg/kg | 10.24.19 05.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 10.24.19 05.12 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 10.24.19 05.12 | |

# Certificate of Analytical Results 640879

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS19** | Matrix: | Soil | Date Received: | 10.23.19 16.25 |
| Lab Sample Id: | 640879-011 | Date Collected: | 10.23.19 14.31 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.23.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105305 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |
| Toluene | 108-88-3 | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.24.19 08.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |
| Total BTEX | | <0.000992 | 0.000992 | mg/kg | 10.24.19 08.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.24.19 08.50 | |
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 10.24.19 08.50 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 640879



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105224 — Matrix: Solid — Date Prep: 10.23.19
MB Sample Id: 7688756-1-BLK — LCS Sample Id: 7688756-1-BKS — LCSD Sample Id: 7688756-1-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 | 10.23.19 22:26 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105224 — Matrix: Soil — Date Prep: 10.23.19
Parent Sample Id: 640879-001 — MS Sample Id: 640879-001 S — MSD Sample Id: 640879-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 29.2 | 990 | 1100 | 108 | 1110 | 108 | 90-110 | 1 | 20 | mg/kg | 10.23.19 22:46 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105224 — Matrix: Solid — Date Prep: 10.23.19
Parent Sample Id: 640881-001 — MS Sample Id: 640881-001 S — MSD Sample Id: 640881-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3450 | 1980 | 6100 | 134 | 6130 | 134 | 90-110 | 0 | 20 | mg/kg | 10.24.19 00:27 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105269 — Matrix: Solid — Date Prep: 10.23.19
MB Sample Id: 7688787-1-BLK — LCS Sample Id: 7688787-1-BKS — LCSD Sample Id: 7688787-1-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 | 845 | 85 | 755 | 76 | 70-135 | 11 | 35 | mg/kg | 10.23.19 22:14 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 783 | 78 | 770 | 77 | 70-135 | 2 | 35 | mg/kg | 10.23.19 22:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 87 | | 110 | | 97 | | 70-135 | % | 10.23.19 22:14 |
| o-Terphenyl | 89 | | 114 | | 95 | | 70-135 | % | 10.23.19 22:14 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105269 — Matrix: Solid — Date Prep: 10.23.19
MB Sample Id: 7688787-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.23.19 21:54 | |

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

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

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

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

# QC Summary 640879



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105269 — Matrix: Soil — Date Prep: 10.23.19
Parent Sample Id: 640822-001 — MS Sample Id: 640822-001 S — MSD Sample Id: 640822-001 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) | 20.3 | 1000 | 875 | 85 | 814 | 80 | 70-135 | 7 | 35 | mg/kg | 10.23.19 23:13 | |
| Diesel Range Organics (DRO) | 24.7 | 1000 | 780 | 76 | 740 | 72 | 70-135 | 5 | 35 | mg/kg | 10.23.19 23:13 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 110 | | 98 | | 70-135 | % | 10.23.19 23:13 |
| o-Terphenyl | 108 | | 98 | | 70-135 | % | 10.23.19 23:13 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105305 — Matrix: Solid — Date Prep: 10.23.19
MB Sample Id: 7688829-1-BLK — LCS Sample Id: 7688829-1-BKS — LCSD Sample Id: 7688829-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0983 | 98 | 0.0996 | 100 | 70-130 | 1 | 35 | mg/kg | 10.24.19 02:36 | |
| Toluene | 0.00107 | 0.100 | 0.0954 | 95 | 0.0966 | 97 | 70-130 | 1 | 35 | mg/kg | 10.24.19 02:36 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0974 | 97 | 0.0989 | 99 | 71-129 | 2 | 35 | mg/kg | 10.24.19 02:36 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.195 | 98 | 0.198 | 99 | 70-135 | 2 | 35 | mg/kg | 10.24.19 02:36 | |
| o-Xylene | <0.00100 | 0.100 | 0.0985 | 99 | 0.101 | 101 | 71-133 | 3 | 35 | mg/kg | 10.24.19 02:36 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 103 | | 105 | | 70-130 | % | 10.24.19 02:36 |
| 4-Bromofluorobenzene | 106 | | 110 | | 111 | | 70-130 | % | 10.24.19 02:36 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105305 — Matrix: Soil — Date Prep: 10.23.19
Parent Sample Id: 640879-001 — MS Sample Id: 640879-001 S — MSD Sample Id: 640879-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000998 | 0.0998 | 0.0643 | 64 | 0.0851 | 86 | 70-130 | 28 | 35 | mg/kg | 10.24.19 03:16 | X |
| Toluene | <0.000998 | 0.0998 | 0.0631 | 63 | 0.0775 | 78 | 70-130 | 20 | 35 | mg/kg | 10.24.19 03:16 | X |
| Ethylbenzene | <0.000998 | 0.0998 | 0.0603 | 60 | 0.0713 | 72 | 71-129 | 17 | 35 | mg/kg | 10.24.19 03:16 | X |
| m,p-Xylenes | <0.00200 | 0.200 | 0.120 | 60 | 0.140 | 70 | 70-135 | 15 | 35 | mg/kg | 10.24.19 03:16 | X |
| o-Xylene | <0.000998 | 0.0998 | 0.0625 | 63 | 0.0716 | 72 | 71-133 | 14 | 35 | mg/kg | 10.24.19 03:16 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 105 | | 70-130 | % | 10.24.19 03:16 |
| 4-Bromofluorobenzene | 114 | | 116 | | 70-130 | % | 10.24.19 03:16 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 440879

XENCO LABORATORIES

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

www.xenco.com Page 1 of 2

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lee County | Rush: 24hr | |
| Sampler's Name: | William Mather | Due Date: 10/24/19 | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 2.4 | Thermometer ID | | |
| Received Intact: | (Yes) No | T-NM-007 | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 11 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH15A | s | 10/22/2019 | 9:14 | 1' | 1 | x | x | x | discrete |
| BH16A | s | 10/22/2019 | 9:16 | 1' | 1 | x | x | x | discrete |
| BH15B | s | 10/22/2019 | 9:15 | 2' | 1 | x | x | x | discrete |
| BH16B | s | 10/22/2019 | 9:17 | 2' | 1 | x | x | x | discrete |
| FS13 | s | 10/23/2019 | 9:38 | .5' | 1 | x | x | x | composite |
| FS14 | s | 10/23/2019 | 9:40 | .5' | 1 | x | x | x | composite |
| FS15 | s | 10/23/2019 | 10:15 | 1' | 1 | x | x | x | composite |
| FS16 | s | 10/23/2019 | 10:17 | 1' | 1 | x | x | x | composite |
| FS17 | s | 10/23/2019 | 11:54 | 1' | 1 | x | x | x | composite |
| FS18 | s | 10/23/2019 | 11:56 | 1' | 1 | x | x | x | composite |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | | | 10/23/19 16:25 | 2 | | | |
| 3 | | | | 4 | | | |
| 5 | | | | 6 | | | |

J Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 640879

XENCO LABORATORIES

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

www.xenco.com Page 2 of 2

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lee County | Rush: 24hr | |
| Sampler's Name: | William Mather | Due Date: 10/23/19 | |

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

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS19 | s | 10/23/2019 | 14:31 | .5' | 1 | x | x | x | composite |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |



Received by OCD: 12/4/2020 1:28:56 PM

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/23/2019 04:25:00 PM

**Work Order #:** 640879

**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** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 10/23/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/24/2019

Jessica Kramer

# Analytical Report 641338

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**30-OCT-19**

Collected By: Client

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

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

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

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

30-OCT-19

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

Reference: XENCO Report No(s): **641338**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 641338. 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. 641338 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS20 | S | 10-28-19 09:27 | 3 ft | 641338-001 |
| FS21 | S | 10-28-19 09:28 | 3 ft | 641338-002 |
| FS22 | S | 10-28-19 09:29 | 3 ft | 641338-003 |
| FS23 | S | 10-28-19 17:14 | 3 ft | 641338-004 |
| FS24 | S | 10-28-19 17:15 | 1.5 ft | 641338-005 |
| FS25 | S | 10-28-19 17:16 | 1.5 ft | 641338-006 |
| SW01 | S | 10-28-19 10:00 | 2 ft | 641338-007 |
| SW02 | S | 10-28-19 10:31 | 2 ft | 641338-008 |
| SW03 | S | 10-28-19 14:53 | 2 ft | 641338-009 |
| SW04 | S | 10-28-19 14:53 | 2 ft | 641338-010 |
| SW05 | S | 10-28-19 17:13 | 2 ft | 641338-011 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *641338*

Report Date: *30-OCT-19*
Date Received: *10/29/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3105805 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3105918 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689204-1-BSD.

Lab Sample ID 641338-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 641338-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.
The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 641338

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Oct-29-19 09:30 am
**Report Date:** 30-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 641338-001 | | 641338-002 | | 641338-003 | | 641338-004 | | 641338-005 | | 641338-006 | |
| | ***Field Id:*** | FS20 | | FS21 | | FS22 | | FS23 | | FS24 | | FS25 | |
| | ***Depth:*** | 3- ft | | 3- ft | | 3- ft | | 3- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-28-19 09:27 | | Oct-28-19 09:28 | | Oct-28-19 09:29 | | Oct-28-19 17:14 | | Oct-28-19 17:15 | | Oct-28-19 17:16 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | |
| | ***Analyzed:*** | Oct-29-19 16:24 | | Oct-29-19 16:44 | | Oct-29-19 17:05 | | Oct-29-19 17:25 | | Oct-29-19 17:46 | | Oct-29-19 18:06 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Toluene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| m,p-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 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | |
| | ***Analyzed:*** | Oct-29-19 12:55 | | Oct-29-19 12:56 | | Oct-29-19 13:02 | | Oct-29-19 13:22 | | Oct-29-19 13:29 | | Oct-29-19 13:36 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | 16.6 | 9.98 | 130 | 10.0 | 294 | 10.1 | 116 | 10.1 | 76.6 | 10.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | |
| | ***Analyzed:*** | Oct-29-19 12:21 | | Oct-29-19 12:41 | | Oct-29-19 13:01 | | Oct-29-19 13:01 | | Oct-29-19 13:21 | | Oct-29-19 13:21 | |
| | ***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 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <49.9 | 49.9 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <49.9 | 49.9 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.2 | 50.2 | <49.9 | 49.9 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |
| Total TPH | | <50.2 | 50.2 | <49.9 | 49.9 | <50.1 | 50.1 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |

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

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 641338

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Oct-29-19 09:30 am
**Report Date:** 30-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 641338-007 | | 641338-008 | | 641338-009 | | 641338-010 | | 641338-011 | |
| | ***Field Id:*** | SW01 | | SW02 | | SW03 | | SW04 | | SW05 | |
| | ***Depth:*** | 2- ft | | 2- ft | | 2- ft | | 2- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-28-19 10:00 | | Oct-28-19 10:31 | | Oct-28-19 14:53 | | Oct-28-19 14:53 | | Oct-28-19 17:13 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | | Oct-29-19 11:10 | |
| | ***Analyzed:*** | Oct-29-19 18:26 | | Oct-29-19 18:47 | | Oct-29-19 19:07 | | Oct-29-19 19:27 | | Oct-29-19 20:43 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Toluene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | | Oct-29-19 11:00 | |
| | ***Analyzed:*** | Oct-29-19 13:43 | | Oct-29-19 13:50 | | Oct-29-19 14:10 | | Oct-29-19 14:17 | | Oct-29-19 14:23 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.1 | 10.1 | 13.0 | 10.1 | 78.2 | 9.94 | 36.1 | 9.96 | 65.1 | 9.96 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | | Oct-29-19 11:20 | |
| | ***Analyzed:*** | Oct-29-19 13:40 | | Oct-29-19 13:40 | | Oct-29-19 14:00 | | Oct-29-19 14:00 | | Oct-29-19 14:21 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <49.9 | 49.9 | <49.8 | 49.8 | <49.9 | 49.9 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.3 | 50.3 | <49.9 | 49.9 | 55.3 | 49.8 | <49.9 | 49.9 | 75.3 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <49.9 | 49.9 | <49.8 | 49.8 | <49.9 | 49.9 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.3 | 50.3 | <49.9 | 49.9 | 55.3 | 49.8 | <49.9 | 49.9 | 75.3 | 49.8 |
| Total TPH | | <50.3 | 50.3 | <49.9 | 49.9 | 55.3 | 49.8 | <49.9 | 49.9 | 75.3 | 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.
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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS20** Matrix: Soil Date Received:10.29.19 09.30

Lab Sample Id: 641338-001 Date Collected: 10.28.19 09.27 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.29.19 11.00 Basis: Wet Weight

Seq Number: 3105764

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 10.29.19 12.55 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.29.19 11.20 Basis: Wet Weight

Seq Number: 3105918

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.29.19 12.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.29.19 12.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.29.19 12.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.29.19 12.21 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.29.19 12.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 10.29.19 12.21 | |
| o-Terphenyl | 84-15-1 | 117 | % | 70-135 | 10.29.19 12.21 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS20** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-001 | Date Collected: | 10.28.19 09.27 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 16.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.29.19 16.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 10.29.19 16.24 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS21** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-002 | Date Collected: | 10.28.19 09.28 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.6** | 9.98 | mg/kg | 10.29.19 12.56 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.29.19 12.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.29.19 12.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.29.19 12.41 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.29.19 12.41 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.29.19 12.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 10.29.19 12.41 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 10.29.19 12.41 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS21** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-002 | Date Collected: | 10.28.19 09.28 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 16.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 16.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 10.29.19 16.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.29.19 16.44 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS22** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-003 | Date Collected: | 10.28.19 09.29 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **130** | 10.0 | mg/kg | 10.29.19 13.02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 10.29.19 13.01 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 10.29.19 13.01 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS22** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-003 | Date Collected: | 10.28.19 09.29 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 17.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 10.29.19 17.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.29.19 17.05 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS23** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-004 | Date Collected: | 10.28.19 17.14 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **294** | 10.1 | mg/kg | 10.29.19 13.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 10.29.19 13.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 10.29.19 13.01 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 10.29.19 13.01 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS23** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-004 | Date Collected: | 10.28.19 17.14 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 17.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.29.19 17.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 10.29.19 17.25 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS24** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-005 | Date Collected: | 10.28.19 17.15 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **116** | 10.1 | mg/kg | 10.29.19 13.29 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.29.19 13.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.29.19 13.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.29.19 13.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.29.19 13.21 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.29.19 13.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 10.29.19 13.21 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 10.29.19 13.21 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS24** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-005 | Date Collected: | 10.28.19 17.15 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 17.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 17.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 10.29.19 17.46 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.29.19 17.46 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS25** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-006 | Date Collected: | 10.28.19 17.16 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **76.6** | 10.1 | mg/kg | 10.29.19 13.36 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.29.19 13.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.29.19 13.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.29.19 13.21 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.29.19 13.21 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.29.19 13.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 10.29.19 13.21 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 10.29.19 13.21 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS25** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-006 | Date Collected: | 10.28.19 17.16 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 18.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 10.29.19 18.06 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.29.19 18.06 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW01** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-007 | Date Collected: | 10.28.19 10.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 10.29.19 13.43 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.29.19 13.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.29.19 13.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.29.19 13.40 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.29.19 13.40 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.29.19 13.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 10.29.19 13.40 | |
| o-Terphenyl | 84-15-1 | 115 | % | 70-135 | 10.29.19 13.40 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW01** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-007 | Date Collected: | 10.28.19 10.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 18.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 10.29.19 18.26 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 10.29.19 18.26 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW02** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-008 | Date Collected: | 10.28.19 10.31 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.0** | 10.1 | mg/kg | 10.29.19 13.50 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.29.19 13.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.29.19 13.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.29.19 13.40 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.29.19 13.40 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.29.19 13.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 10.29.19 13.40 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 10.29.19 13.40 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW02** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-008 | Date Collected: | 10.28.19 10.31 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 18.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 18.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 10.29.19 18.47 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.29.19 18.47 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW03** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-009 | Date Collected: | 10.28.19 14.53 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **78.2** | 9.94 | mg/kg | 10.29.19 14.10 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.29.19 14.00 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **55.3** | 49.8 | mg/kg | 10.29.19 14.00 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.29.19 14.00 | U | 1 |
| **Total GRO-DRO** | PHC628 | **55.3** | 49.8 | mg/kg | 10.29.19 14.00 | | 1 |
| **Total TPH** | PHC635 | **55.3** | 49.8 | mg/kg | 10.29.19 14.00 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-135 | 10.29.19 14.00 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 10.29.19 14.00 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW03** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-009 | Date Collected: | 10.28.19 14.53 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 19.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 10.29.19 19.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.29.19 19.07 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW04** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-010 | Date Collected: | 10.28.19 14.53 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **36.1** | 9.96 | mg/kg | 10.29.19 14.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.29.19 14.00 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.29.19 14.00 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.29.19 14.00 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.29.19 14.00 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.29.19 14.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 10.29.19 14.00 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 10.29.19 14.00 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW04** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-010 | Date Collected: | 10.28.19 14.53 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 19.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 19.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 10.29.19 19.27 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 10.29.19 19.27 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW05** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-011 | Date Collected: | 10.28.19 17.13 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3105764 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **65.1** | 9.96 | mg/kg | 10.29.19 14.23 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 11.20 | Basis: | Wet Weight |
| Seq Number: | 3105918 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.29.19 14.21 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **75.3** | 49.8 | mg/kg | 10.29.19 14.21 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.29.19 14.21 | U | 1 |
| **Total GRO-DRO** | PHC628 | **75.3** | 49.8 | mg/kg | 10.29.19 14.21 | | 1 |
| **Total TPH** | PHC635 | **75.3** | 49.8 | mg/kg | 10.29.19 14.21 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 10.29.19 14.21 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 10.29.19 14.21 | |

# Certificate of Analytical Results 641338

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW05** | Matrix: | Soil | Date Received: | 10.29.19 09.30 |
| Lab Sample Id: | 641338-011 | Date Collected: | 10.28.19 17.13 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 11.10 | Basis: | Wet Weight |
| Seq Number: | 3105805 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.29.19 20.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.29.19 20.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 10.29.19 20.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.29.19 20.43 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 641338



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105764 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689120-1-BLK — LCS Sample Id: 7689120-1-BKS — LCSD Sample Id: 7689120-1-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 | 300 | 306 | 102 | 307 | 102 | 90-110 | 0 | 20 | mg/kg | 10.29.19 08:20 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105764 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641285-001 — MS Sample Id: 641285-001 S — MSD Sample Id: 641285-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 34.4 | 251 | 281 | 98 | 278 | 97 | 90-110 | 1 | 20 | mg/kg | 10.29.19 08:41 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105764 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641338-003 — MS Sample Id: 641338-003 S — MSD Sample Id: 641338-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 130 | 252 | 405 | 109 | 402 | 108 | 90-110 | 1 | 20 | mg/kg | 10.29.19 13:09 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105918 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689204-1-BLK — LCS Sample Id: 7689204-1-BKS — LCSD Sample Id: 7689204-1-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 | 895 | 90 | 892 | 89 | 70-135 | 0 | 35 | mg/kg | 10.29.19 12:00 | |
| Diesel Range Organics (DRO) | 19.5 | 1000 | 758 | 76 | 748 | 75 | 70-135 | 1 | 35 | mg/kg | 10.29.19 12:00 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 99 | | 121 | | 136 | ** | 70-135 | % | 10.29.19 12:00 |
| o-Terphenyl | 98 | | 120 | | 116 | | 70-135 | % | 10.29.19 12:00 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105918 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689204-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.29.19 11:40 | |

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



Final 1.000

# QC Summary 641338



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105918 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641338-001 — MS Sample Id: 641338-001 S — MSD Sample Id: 641338-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <13.9 | 1000 | 822 | 82 | 881 | 88 | 70-135 | 7 | 35 | mg/kg | 10.29.19 12:21 | |
| Diesel Range Organics (DRO) | 23.6 | 1000 | 705 | 68 | 768 | 74 | 70-135 | 9 | 35 | mg/kg | 10.29.19 12:21 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 129 | | 115 | | 70-135 | % | 10.29.19 12:21 |
| o-Terphenyl | 113 | | 115 | | 70-135 | % | 10.29.19 12:21 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105805 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689195-1-BLK — LCS Sample Id: 7689195-1-BKS — LCSD Sample Id: 7689195-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.105 | 105 | 0.0816 | 82 | 70-130 | 25 | 35 | mg/kg | 10.29.19 14:28 | |
| Toluene | <0.00100 | 0.100 | 0.106 | 106 | 0.0816 | 82 | 70-130 | 26 | 35 | mg/kg | 10.29.19 14:28 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.110 | 110 | 0.0846 | 85 | 71-129 | 26 | 35 | mg/kg | 10.29.19 14:28 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.225 | 113 | 0.173 | 87 | 70-135 | 26 | 35 | mg/kg | 10.29.19 14:28 | |
| o-Xylene | <0.00100 | 0.100 | 0.112 | 112 | 0.0865 | 87 | 71-133 | 26 | 35 | mg/kg | 10.29.19 14:28 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 102 | | 99 | | 70-130 | % | 10.29.19 14:28 |
| 4-Bromofluorobenzene | 109 | | 111 | | 110 | | 70-130 | % | 10.29.19 14:28 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105805 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641338-001 — MS Sample Id: 641338-001 S — MSD Sample Id: 641338-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0935 | 94 | 0.0874 | 87 | 70-130 | 7 | 35 | mg/kg | 10.29.19 15:09 | |
| Toluene | <0.00100 | 0.100 | 0.0933 | 93 | 0.0867 | 87 | 70-130 | 7 | 35 | mg/kg | 10.29.19 15:09 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0948 | 95 | 0.0884 | 88 | 71-129 | 7 | 35 | mg/kg | 10.29.19 15:09 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.194 | 97 | 0.180 | 90 | 70-135 | 7 | 35 | mg/kg | 10.29.19 15:09 | |
| o-Xylene | <0.00100 | 0.100 | 0.0973 | 97 | 0.0897 | 90 | 71-133 | 8 | 35 | mg/kg | 10.29.19 15:09 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 100 | | 70-130 | % | 10.29.19 15:09 |
| 4-Bromofluorobenzene | 114 | | 108 | | 70-130 | % | 10.29.19 15:09 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# 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)
www.xenco.com

Work Order No: 641338

Page 1 of 2

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☐ |
| P.O. Number: | Lea County | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | 10/30 |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 2.2 | Thermometer ID | | |
| Received Intact: | (Yes) No | T-NM-007 | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS20 | s | 10/28/2019 | 9:27 | 3' | 1 | x | x | x | composite |
| FS21 | s | 10/28/2019 | 9:28 | 3' | 1 | x | x | x | composite |
| FS22 | s | 10/28/2019 | 9:29 | 3' | 1 | x | x | x | composite |
| FS23 | s | 10/28/2019 | 17:14 | 3' | 1 | x | x | x | composite |
| FS24 | s | 10/28/2019 | 17:15 | 1.5' | 1 | x | x | x | composite |
| FS25 | s | 10/28/2019 | 17:16 | 1.5' | 1 | x | x | x | composite |
| SW01 | s | 10/28/2019 | 10:30 | 2' | 1 | x | x | x | composite |
| SW02 | s | 10/28/2019 | 10:31 | 2' | 1 | x | x | x | composite |
| SW03 | s | 10/28/2019 | 14:53 | 2' | 1 | x | x | x | composite |
| SW04 | s | 10/28/2019 | 14:53 | 2' | 1 | x | x | x | composite |

ANALYSIS REQUEST

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 10/29/19 @ 0930 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

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# 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)
www.xenco.com

Work Order No: 641338

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 |
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lea County | Rush: 24hr | |
| Sampler's Name: | William Mather | Due Date: 10/30 | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SW05 | s | 10/28/2019 | 17:13 | 2' | 1 | x | x | x |

ANALYSIS REQUEST

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 10/29/19 0930 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/29/2019 09:30:00 AM

**Work Order #:** 641338

**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 |
| #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: 10/29/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/29/2019

Jessica Kramer

# Analytical Report 641443

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**30-OCT-19**

Collected By: Client

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

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

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

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

30-OCT-19

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

Reference: XENCO Report No(s): **641443**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 641443. 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. 641443 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01A | S | 10-29-19 11:06 | 1 ft | 641443-001 |
| PH01B | S | 10-29-19 11:09 | 2 ft | 641443-002 |
| PH01C | S | 10-29-19 11:13 | 3 ft | 641443-003 |
| PH02A | S | 10-29-19 11:21 | 1 ft | 641443-004 |
| PH02B | S | 10-29-19 11:24 | 2 ft | 641443-005 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *641443*

Report Date: *30-OCT-19*
Date Received: *10/29/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3105795 Chloride by EPA 300
Lab Sample ID 641443-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 641443-001, -002, -003, -004, -005.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3105810 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 641443-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, 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: 641443-001, -002, -003, -004, -005.
The Laboratory Control Sample for m,p-Xylenes , Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3105880 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641345-010 S.

Batch: LBA-3105921 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641443-002 S,641443-005.
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689221-1-BKS,7689221-1-BSD,641443-005.

# Certificate of Analysis Summary 641443

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Oct-29-19 04:32 pm
**Report Date:** 30-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 641443-001 | | 641443-002 | | 641443-003 | | 641443-004 | | 641443-005 | |
| | *Field Id:* | PH01A | | PH01B | | PH01C | | PH02A | | PH02B | |
| | *Depth:* | 1- ft | | 2- ft | | 3- ft | | 1- ft | | 2- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Oct-29-19 11:06 | | Oct-29-19 11:09 | | Oct-29-19 11:13 | | Oct-29-19 11:21 | | Oct-29-19 11:24 | |
| **BTEX by EPA 8021B** | *Extracted:* | Oct-29-19 17:10 | | Oct-29-19 17:10 | | Oct-29-19 17:10 | | Oct-29-19 17:10 | | Oct-29-19 17:10 | |
| | *Analyzed:* | Oct-30-19 03:39 | | Oct-30-19 03:59 | | Oct-30-19 04:19 | | Oct-30-19 04:40 | | Oct-30-19 05:00 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Toluene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | *Extracted:* | Oct-29-19 17:00 | | Oct-29-19 17:00 | | Oct-29-19 17:00 | | Oct-29-19 17:00 | | Oct-29-19 17:00 | |
| | *Analyzed:* | Oct-29-19 21:38 | | Oct-29-19 21:44 | | Oct-29-19 21:50 | | Oct-29-19 21:56 | | Oct-29-19 22:03 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 655 | 50.3 | 170 | 10.1 | 118 | 9.98 | 282 | 9.94 | 205 | 9.98 |
| **TPH by SW8015 Mod** | *Extracted:* | ** ** ** ** | | Oct-29-19 17:30 | | Oct-29-19 18:00 | | Oct-29-19 18:10 | | Oct-29-19 18:20 | |
| | *Analyzed:* | Oct-29-19 20:29 | | Oct-30-19 13:27 | | Oct-29-19 21:48 | | Oct-30-19 13:27 | | Oct-29-19 22:08 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.4 | 50.4 | <50.2 | 50.2 | <50.3 | 50.3 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | 324 | 49.9 | 73.2 | 50.4 | <50.2 | 50.2 | <50.3 | 50.3 | <50.3 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.4 | 50.4 | <50.2 | 50.2 | <50.3 | 50.3 | <50.3 | 50.3 |
| Total GRO-DRO | | 324 | 49.9 | 73.2 | 50.4 | <50.2 | 50.2 | <50.3 | 50.3 | <50.3 | 50.3 |
| Total TPH | | 324 | 49.9 | 73.2 | 50.4 | <50.2 | 50.2 | <50.3 | 50.3 | <50.3 | 50.3 |

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

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **PH01A** Matrix: Soil Date Received:10.29.19 16.32

Lab Sample Id: 641443-001 Date Collected: 10.29.19 11.06 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.29.19 17.00 Basis: Wet Weight

Seq Number: 3105795

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **655** | 50.3 | mg/kg | 10.29.19 21.38 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.29.19 16.30 Basis: Wet Weight

Seq Number: 3105880

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.29.19 20.29 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **324** | 49.9 | mg/kg | 10.29.19 20.29 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.29.19 20.29 | U | 1 |
| **Total GRO-DRO** | PHC628 | **324** | 49.9 | mg/kg | 10.29.19 20.29 | | 1 |
| **Total TPH** | PHC635 | **324** | 49.9 | mg/kg | 10.29.19 20.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 127 | % | 70-135 | 10.29.19 20.29 | |
| o-Terphenyl | 84-15-1 | 127 | % | 70-135 | 10.29.19 20.29 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-001 | Date Collected: | 10.29.19 11.06 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105810 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.30.19 03.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 10.30.19 03.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.30.19 03.39 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **PH01B** Matrix: Soil Date Received:10.29.19 16.32

Lab Sample Id: 641443-002 Date Collected: 10.29.19 11.09 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.29.19 17.00 Basis: Wet Weight

Seq Number: 3105795

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **170** | 10.1 | mg/kg | 10.29.19 21.44 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.29.19 17.30 Basis: Wet Weight

Seq Number: 3105921

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.4 | 50.4 | mg/kg | 10.30.19 13.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **73.2** | 50.4 | mg/kg | 10.30.19 13.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.4 | 50.4 | mg/kg | 10.30.19 13.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **73.2** | 50.4 | mg/kg | 10.30.19 13.27 | | 1 |
| **Total TPH** | PHC635 | **73.2** | 50.4 | mg/kg | 10.30.19 13.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 10.30.19 13.27 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 10.30.19 13.27 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01B** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-002 | Date Collected: | 10.29.19 11.09 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105810 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.30.19 03.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.30.19 03.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 10.30.19 03.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.30.19 03.59 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **PH01C** Matrix: Soil Date Received:10.29.19 16.32

Lab Sample Id: 641443-003 Date Collected: 10.29.19 11.13 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.29.19 17.00 Basis: Wet Weight

Seq Number: 3105795

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **118** | 9.98 | mg/kg | 10.29.19 21.50 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.29.19 18.00 Basis: Wet Weight

Seq Number: 3105921

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.29.19 21.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.29.19 21.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.29.19 21.48 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.29.19 21.48 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.29.19 21.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 10.29.19 21.48 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 10.29.19 21.48 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01C** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-003 | Date Collected: | 10.29.19 11.13 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105810 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.30.19 04.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 10.30.19 04.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.30.19 04.19 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-004 | Date Collected: | 10.29.19 11.21 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105795 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **282** | 9.94 | mg/kg | 10.29.19 21.56 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.29.19 18.10 | Basis: | Wet Weight |
| Seq Number: | 3105921 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.30.19 13.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.30.19 13.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.30.19 13.27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.30.19 13.27 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.30.19 13.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 10.30.19 13.27 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 10.30.19 13.27 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-004 | Date Collected: | 10.29.19 11.21 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105810 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.30.19 04.40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.30.19 04.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.30.19 04.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 10.30.19 04.40 | |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **PH02B** Matrix: Soil Date Received:10.29.19 16.32

Lab Sample Id: 641443-005 Date Collected: 10.29.19 11.24 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 10.29.19 17.00 Basis: Wet Weight

Seq Number: 3105795

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **205** | 9.98 | mg/kg | 10.29.19 22.03 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 10.29.19 18.20 Basis: Wet Weight

Seq Number: 3105921

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.29.19 22.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 10.29.19 22.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 10.29.19 22.08 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 10.29.19 22.08 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 10.29.19 22.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 149 | % | 70-135 | 10.29.19 22.08 | ** |
| o-Terphenyl | 84-15-1 | 145 | % | 70-135 | 10.29.19 22.08 | ** |

# Certificate of Analytical Results 641443

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02B** | Matrix: | Soil | Date Received: | 10.29.19 16.32 |
| Lab Sample Id: | 641443-005 | Date Collected: | 10.29.19 11.24 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.29.19 17.10 | Basis: | Wet Weight |
| Seq Number: | 3105810 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 10.30.19 05.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 10.30.19 05.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 10.30.19 05.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 10.30.19 05.00 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 641443



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689124-1-BLK — LCS Sample Id: 7689124-1-BKS — LCSD Sample Id: 7689124-1-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 | 300 | 305 | 102 | 306 | 102 | 90-110 | 0 | 20 | mg/kg | 10.29.19 18:17 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641345-007 — MS Sample Id: 641345-007 S — MSD Sample Id: 641345-007 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3.83 | 247 | 236 | 94 | 240 | 94 | 90-110 | 2 | 20 | mg/kg | 10.29.19 18:36 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105795 — Matrix: Solid — Date Prep: 10.29.19
Parent Sample Id: 641443-005 — MS Sample Id: 641443-005 S — MSD Sample Id: 641443-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 205 | 252 | 484 | 111 | 482 | 110 | 90-110 | 0 | 20 | mg/kg | 10.29.19 22:09 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689206-1-BLK — LCS Sample Id: 7689206-1-BKS — LCSD Sample Id: 7689206-1-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 | 887 | 89 | 895 | 90 | 70-135 | 1 | 35 | mg/kg | 10.29.19 16:30 | |
| Diesel Range Organics (DRO) | <11.5 | 1000 | 762 | 76 | 752 | 75 | 70-135 | 1 | 35 | mg/kg | 10.29.19 16:30 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | | 134 | | 123 | | 70-135 | % | 10.29.19 16:30 |
| o-Terphenyl | 105 | | 120 | | 122 | | 70-135 | % | 10.29.19 16:30 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 641443



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105921 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689221-1-BLK — LCS Sample Id: 7689221-1-BKS — LCSD Sample Id: 7689221-1-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 | 861 | 86 | 844 | 84 | 70-135 | 2 | 35 | mg/kg | 10.29.19 21:09 | |
| Diesel Range Organics (DRO) | 15.7 | 1000 | 742 | 74 | 787 | 79 | 70-135 | 6 | 35 | mg/kg | 10.29.19 21:09 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 135 | | 152 | ** | 136 | ** | 70-135 | % | 10.29.19 21:09 |
| o-Terphenyl | 134 | | 135 | | 134 | | 70-135 | % | 10.29.19 21:09 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689206-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.29.19 16:30 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105921 — Matrix: Solid — Date Prep: 10.29.19
MB Sample Id: 7689221-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.29.19 20:49 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105880 — Matrix: Soil — Date Prep: 10.29.19
Parent Sample Id: 641345-010 — MS Sample Id: 641345-010 S — MSD Sample Id: 641345-010 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) | <13.8 | 995 | 903 | 91 | 870 | 87 | 70-135 | 4 | 35 | mg/kg | 10.29.19 17:10 | |
| Diesel Range Organics (DRO) | 15.8 | 995 | 746 | 73 | 741 | 73 | 70-135 | 1 | 35 | mg/kg | 10.29.19 17:10 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 144 | ** | 131 | | 70-135 | % | 10.29.19 17:10 |
| o-Terphenyl | 128 | | 125 | | 70-135 | % | 10.29.19 17:10 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 641443



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3105921 | Matrix: Soil | Date Prep: 10.29.19
Parent Sample Id: 641443-002 | MS Sample Id: 641443-002 S | MSD Sample Id: 641443-002 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) | <13.8 | 997 | 871 | 87 | 832 | 83 | 70-135 | 5 | 35 | mg/kg | 10.29.19 21:28 | |
| Diesel Range Organics (DRO) | 73.2 | 997 | 863 | 79 | 797 | 72 | 70-135 | 8 | 35 | mg/kg | 10.29.19 21:28 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 134 | | 134 | | 70-135 | % | 10.29.19 21:28 |
| o-Terphenyl | 139 | ** | 131 | | 70-135 | % | 10.29.19 21:28 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3105810 | Matrix: Solid | Date Prep: 10.29.19
MB Sample Id: 7689198-1-BLK | LCS Sample Id: 7689198-1-BKS | LCSD Sample Id: 7689198-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.103 | 103 | 0.0981 | 98 | 70-130 | 5 | 35 | mg/kg | 10.30.19 01:42 | |
| Toluene | <0.00100 | 0.100 | 0.102 | 102 | 0.0970 | 97 | 70-130 | 5 | 35 | mg/kg | 10.30.19 01:42 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.104 | 104 | 0.0991 | 99 | 71-129 | 5 | 35 | mg/kg | 10.30.19 01:42 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.211 | 106 | 0.200 | 100 | 70-135 | 5 | 35 | mg/kg | 10.30.19 01:42 | |
| o-Xylene | <0.00100 | 0.100 | 0.107 | 107 | 0.101 | 101 | 71-133 | 6 | 35 | mg/kg | 10.30.19 01:42 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 103 | | 101 | | 70-130 | % | 10.30.19 01:42 |
| 4-Bromofluorobenzene | 109 | | 115 | | 112 | | 70-130 | % | 10.30.19 01:42 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3105810 | Matrix: Soil | Date Prep: 10.29.19
Parent Sample Id: 641443-001 | MS Sample Id: 641443-001 S | MSD Sample Id: 641443-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0770 | 77 | 0.0767 | 77 | 70-130 | 0 | 35 | mg/kg | 10.30.19 02:23 | |
| Toluene | <0.000500 | 0.100 | 0.0721 | 72 | 0.0721 | 72 | 70-130 | 0 | 35 | mg/kg | 10.30.19 02:23 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0665 | 67 | 0.0678 | 68 | 71-129 | 2 | 35 | mg/kg | 10.30.19 02:23 | X |
| m,p-Xylenes | 0.00133 | 0.200 | 0.132 | 65 | 0.135 | 67 | 70-135 | 2 | 35 | mg/kg | 10.30.19 02:23 | X |
| o-Xylene | <0.00100 | 0.100 | 0.0679 | 68 | 0.0688 | 69 | 71-133 | 1 | 35 | mg/kg | 10.30.19 02:23 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 102 | | 70-130 | % | 10.30.19 02:23 |
| 4-Bromofluorobenzene | 115 | | 117 | | 70-130 | % | 10.30.19 02:23 |

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

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# Chain of Custody

XENCO LABORATORIES

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:** 641443

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☐ |
| P.O. Number: | Lea County | Rush: | 24 hr |
| Sampler's Name: | William Mather | Due Date: | 10/30 |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 3.4 | Thermometer ID | |
| Received Intact: | Yes No | | T-NM-007 |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 5 |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH01A | s | 10/29/2019 | 11:06 | 1' | 1 | x | x | x |
| PH01B | s | 10/29/2019 | 11:09 | 2' | 1 | x | x | x |
| PH01C | s | 10/29/2019 | 11:13 | 3' | 1 | x | x | x |
| PH02A | s | 10/29/2019 | 11:21 | 1' | 1 | x | x | x |
| PH02B | s | 10/29/2019 | 11:24 | 2' | 1 | x | x | x |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

PH01A: discrete
PH01B: discrete
PH01C: discrete
PH02A: discrete
PH02B: discrete

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 10/29/19 10:32 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/22/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/29/2019 04:32:00 PM

**Work Order #:** 641443

**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** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 10/29/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/30/2019

# Analytical Report 641647

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**04-NOV-19**

Collected By: Client

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

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

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

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

04-NOV-19

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

Reference: XENCO Report No(s): **641647**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 641647. 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. 641647 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| F26 | S | 10-30-19 12:58 | 1.5 ft | 641647-001 |
| F27 | S | 10-30-19 14:35 | 1.5 ft | 641647-002 |
| SW06 | S | 10-30-19 13:00 | 1 ft | 641647-003 |
| SW07 | S | 10-30-19 14:10 | 1 ft | 641647-004 |
| SW08 | S | 10-30-19 14:28 | 1 ft | 641647-005 |
| SW09 | S | 10-30-19 14:30 | 1 ft | 641647-006 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *641647*

Report Date: *04-NOV-19*
Date Received: *10/31/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3106150 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641648-001 S,641648-001 SD.

Batch: LBA-3106175 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 641647-006.

# Certificate of Analysis Summary 641647

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Thu Oct-31-19 08:20 am
**Report Date:** 04-NOV-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 641647-001 | | 641647-002 | | 641647-003 | | 641647-004 | | 641647-005 | | 641647-006 | |
| | ***Field Id:*** | F26 | | F27 | | SW06 | | SW07 | | SW08 | | SW09 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Oct-30-19 12:58 | | Oct-30-19 14:35 | | Oct-30-19 13:00 | | Oct-30-19 14:10 | | Oct-30-19 14:28 | | Oct-30-19 14:30 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Oct-31-19 09:00 | | Oct-31-19 09:00 | | Oct-31-19 09:00 | | Oct-31-19 09:00 | | Oct-31-19 09:00 | | Oct-31-19 09:00 | |
| | ***Analyzed:*** | Oct-31-19 15:00 | | Oct-31-19 15:20 | | Oct-31-19 16:35 | | Oct-31-19 16:56 | | Oct-31-19 17:16 | | Oct-31-19 17:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Toluene | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | 0.00623 | 0.000998 | <0.00101 | 0.00101 | 0.00211 | 0.00100 |
| Ethylbenzene | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | 0.00275 | 0.000998 | <0.00101 | 0.00101 | 0.00895 | 0.00100 |
| m,p-Xylenes | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | 0.00482 | 0.00200 | <0.00202 | 0.00202 | 0.00767 | 0.00200 |
| o-Xylene | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | 0.00242 | 0.000998 | <0.00101 | 0.00101 | 0.00332 | 0.00100 |
| Total Xylenes | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | 0.00724 | 0.000998 | <0.00101 | 0.00101 | 0.0110 | 0.00100 |
| Total BTEX | | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.000990 | 0.000990 | 0.0162 | 0.000998 | <0.00101 | 0.00101 | 0.0221 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Oct-31-19 15:10 | | Oct-31-19 15:10 | | Oct-31-19 15:10 | | Oct-31-19 15:10 | | Oct-31-19 15:10 | | Oct-31-19 15:10 | |
| | ***Analyzed:*** | Oct-31-19 16:24 | | Oct-31-19 16:30 | | Oct-31-19 16:36 | | Oct-31-19 16:43 | | Oct-31-19 16:49 | | Oct-31-19 16:55 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 324 | 19.8 | 231 | 19.8 | 16.6 | 9.88 | 44.0 | 9.96 | 430 | 49.9 | 288 | 50.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Oct-31-19 11:00 | | Oct-31-19 11:00 | | Oct-31-19 11:00 | | Oct-31-19 11:00 | | Oct-31-19 11:00 | | Oct-31-19 11:00 | |
| | ***Analyzed:*** | Oct-31-19 15:50 | | Oct-31-19 17:27 | | Oct-31-19 17:47 | | Oct-31-19 18:07 | | Oct-31-19 16:47 | | Nov-01-19 10:21 | |
| | ***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 | <49.8 | 49.8 | <50.1 | 50.1 | <50.3 | 50.3 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <50.2 | 50.2 | 714 | 49.8 | 82.0 | 50.1 | 894 | 50.3 | 201 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.2 | 50.2 | 87.3 | 49.8 | <50.1 | 50.1 | 109 | 50.3 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.2 | 50.2 | <50.2 | 50.2 | 714 | 49.8 | 82.0 | 50.1 | 894 | 50.3 | 201 | 49.9 |
| Total TPH | | <50.2 | 50.2 | <50.2 | 50.2 | 801 | 49.8 | 82.0 | 50.1 | 1000 | 50.3 | 201 | 49.9 |

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

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **F26** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-001 | Date Collected: | 10.30.19 12.58 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **324** | 19.8 | mg/kg | 10.31.19 16.24 | | 2 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.31.19 15.50 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.31.19 15.50 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.31.19 15.50 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.31.19 15.50 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.31.19 15.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 10.31.19 15.50 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 10.31.19 15.50 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **F26** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-001 | Date Collected: | 10.30.19 12.58 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.31.19 15.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.31.19 15.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 10.31.19 15.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 10.31.19 15.00 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **F27** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-002 | Date Collected: | 10.30.19 14.35 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **231** | 19.8 | mg/kg | 10.31.19 16.30 | | 2 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 10.31.19 17.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 10.31.19 17.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 10.31.19 17.27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 10.31.19 17.27 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 10.31.19 17.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-135 | 10.31.19 17.27 | |
| o-Terphenyl | 84-15-1 | 115 | % | 70-135 | 10.31.19 17.27 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **F27** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-002 | Date Collected: | 10.30.19 14.35 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.31.19 15.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 10.31.19 15.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 10.31.19 15.20 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.31.19 15.20 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW06** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-003 | Date Collected: | 10.30.19 13.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.6** | 9.88 | mg/kg | 10.31.19 16.36 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.31.19 17.47 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **714** | 49.8 | mg/kg | 10.31.19 17.47 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **87.3** | 49.8 | mg/kg | 10.31.19 17.47 | | 1 |
| **Total GRO-DRO** | PHC628 | **714** | 49.8 | mg/kg | 10.31.19 17.47 | | 1 |
| **Total TPH** | PHC635 | **801** | 49.8 | mg/kg | 10.31.19 17.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 10.31.19 17.47 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 10.31.19 17.47 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW06** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-003 | Date Collected: | 10.30.19 13.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 10.31.19 16.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 10.31.19 16.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.31.19 16.35 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 10.31.19 16.35 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW07** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-004 | Date Collected: | 10.30.19 14.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.0** | 9.96 | mg/kg | 10.31.19 16.43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 10.31.19 18.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **82.0** | 50.1 | mg/kg | 10.31.19 18.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 10.31.19 18.07 | U | 1 |
| **Total GRO-DRO** | PHC628 | **82.0** | 50.1 | mg/kg | 10.31.19 18.07 | | 1 |
| **Total TPH** | PHC635 | **82.0** | 50.1 | mg/kg | 10.31.19 18.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 10.31.19 18.07 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 10.31.19 18.07 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW07** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-004 | Date Collected: | 10.30.19 14.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 10.31.19 16.56 | U | 1 |
| **Toluene** | 108-88-3 | **0.00623** | 0.000998 | mg/kg | 10.31.19 16.56 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00275** | 0.000998 | mg/kg | 10.31.19 16.56 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00482** | 0.00200 | mg/kg | 10.31.19 16.56 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00242** | 0.000998 | mg/kg | 10.31.19 16.56 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00724** | 0.000998 | mg/kg | 10.31.19 16.56 | | 1 |
| **Total BTEX** | | **0.0162** | 0.000998 | mg/kg | 10.31.19 16.56 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.31.19 16.56 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 10.31.19 16.56 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW08** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-005 | Date Collected: | 10.30.19 14.28 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **430** | 49.9 | mg/kg | 10.31.19 16.49 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 10.31.19 16.47 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **894** | 50.3 | mg/kg | 10.31.19 16.47 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **109** | 50.3 | mg/kg | 10.31.19 16.47 | | 1 |
| **Total GRO-DRO** | PHC628 | **894** | 50.3 | mg/kg | 10.31.19 16.47 | | 1 |
| **Total TPH** | PHC635 | **1000** | 50.3 | mg/kg | 10.31.19 16.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 10.31.19 16.47 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 10.31.19 16.47 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW08** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-005 | Date Collected: | 10.30.19 14.28 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 10.31.19 17.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 10.31.19 17.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 10.31.19 17.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 10.31.19 17.16 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW09** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-006 | Date Collected: | 10.30.19 14.30 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 15.10 | Basis: | Wet Weight |
| Seq Number: | 3106108 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **288** | 50.1 | mg/kg | 10.31.19 16.55 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 10.31.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3106150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 11.01.19 10.21 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **201** | 49.9 | mg/kg | 11.01.19 10.21 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 11.01.19 10.21 | U | 1 |
| **Total GRO-DRO** | PHC628 | **201** | 49.9 | mg/kg | 11.01.19 10.21 | | 1 |
| **Total TPH** | PHC635 | **201** | 49.9 | mg/kg | 11.01.19 10.21 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 11.01.19 10.21 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 11.01.19 10.21 | |

# Certificate of Analytical Results 641647

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW09** | Matrix: | Soil | Date Received: | 10.31.19 08.20 |
| Lab Sample Id: | 641647-006 | Date Collected: | 10.30.19 14.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 10.31.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3106175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 10.31.19 17.37 | U | 1 |
| **Toluene** | 108-88-3 | **0.00211** | 0.00100 | mg/kg | 10.31.19 17.37 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00895** | 0.00100 | mg/kg | 10.31.19 17.37 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00767** | 0.00200 | mg/kg | 10.31.19 17.37 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00332** | 0.00100 | mg/kg | 10.31.19 17.37 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0110** | 0.00100 | mg/kg | 10.31.19 17.37 | | 1 |
| **Total BTEX** | | **0.0221** | 0.00100 | mg/kg | 10.31.19 17.37 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 139 | % | 70-130 | 10.31.19 17.37 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.31.19 17.37 | |

# 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

# QC Summary 641647



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106108 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689340-1-BLK — LCS Sample Id: 7689340-1-BKS — LCSD Sample Id: 7689340-1-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 | 270 | 108 | 271 | 108 | 90-110 | 0 | 20 | mg/kg | 10.31.19 14:56 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106108 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641648-001 — MS Sample Id: 641648-001 S — MSD Sample Id: 641648-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 2010 | 2470 | 4570 | 104 | 4580 | 104 | 90-110 | 0 | 20 | mg/kg | 10.31.19 15:15 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106108 — Matrix: Soil — Date Prep: 10.31.19
Parent Sample Id: 641647-006 — MS Sample Id: 641647-006 S — MSD Sample Id: 641647-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 288 | 1260 | 1490 | 95 | 1470 | 94 | 90-110 | 1 | 20 | mg/kg | 10.31.19 17:01 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106150 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689349-1-BLK — LCS Sample Id: 7689349-1-BKS — LCSD Sample Id: 7689349-1-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 | 883 | 88 | 862 | 86 | 70-135 | 2 | 35 | mg/kg | 10.31.19 12:16 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 774 | 77 | 768 | 77 | 70-135 | 1 | 35 | mg/kg | 10.31.19 12:16 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 132 | | 135 | | 135 | | 70-135 | % | 10.31.19 12:16 |
| o-Terphenyl | 133 | | 126 | | 129 | | 70-135 | % | 10.31.19 12:16 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106150 — Matrix: Solid — Date Prep: 10.31.19
MB Sample Id: 7689349-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.31.19 11:56 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 641647



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106150 | Matrix: Soil | Date Prep: 10.31.19
Parent Sample Id: 641648-001 | MS Sample Id: 641648-001 S | MSD Sample Id: 641648-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 702 | 70 | 706 | 70 | 70-135 | 1 | 35 | mg/kg | 10.31.19 12:36 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 642 | 64 | 637 | 63 | 70-135 | 1 | 35 | mg/kg | 10.31.19 12:36 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 70 | | 71 | | 70-135 | % | 10.31.19 12:36 |
| o-Terphenyl | 68 | ** | 69 | ** | 70-135 | % | 10.31.19 12:36 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106175 | Matrix: Solid | Date Prep: 10.31.19
MB Sample Id: 7689419-1-BLK | LCS Sample Id: 7689419-1-BKS | LCSD Sample Id: 7689419-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0936 | 94 | 0.100 | 100 | 70-130 | 7 | 35 | mg/kg | 10.31.19 10:21 | |
| Toluene | <0.00100 | 0.100 | 0.0940 | 94 | 0.100 | 100 | 70-130 | 6 | 35 | mg/kg | 10.31.19 10:21 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0980 | 98 | 0.105 | 105 | 71-129 | 7 | 35 | mg/kg | 10.31.19 10:21 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.199 | 100 | 0.213 | 107 | 70-135 | 7 | 35 | mg/kg | 10.31.19 10:21 | |
| o-Xylene | <0.00100 | 0.100 | 0.0982 | 98 | 0.106 | 106 | 71-133 | 8 | 35 | mg/kg | 10.31.19 10:21 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 98 | | 99 | | 102 | | 70-130 | % | 10.31.19 10:21 |
| 4-Bromofluorobenzene | 109 | | 106 | | 112 | | 70-130 | % | 10.31.19 10:21 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106175 | Matrix: Soil | Date Prep: 10.31.19
Parent Sample Id: 641648-001 | MS Sample Id: 641648-001 S | MSD Sample Id: 641648-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0966 | 97 | 0.0840 | 84 | 70-130 | 14 | 35 | mg/kg | 10.31.19 11:02 | |
| Toluene | <0.00100 | 0.100 | 0.0978 | 98 | 0.0842 | 84 | 70-130 | 15 | 35 | mg/kg | 10.31.19 11:02 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.102 | 102 | 0.0864 | 87 | 71-129 | 17 | 35 | mg/kg | 10.31.19 11:02 | |
| m,p-Xylenes | <0.00201 | 0.201 | 0.207 | 103 | 0.176 | 88 | 70-135 | 16 | 35 | mg/kg | 10.31.19 11:02 | |
| o-Xylene | <0.00100 | 0.100 | 0.103 | 103 | 0.0880 | 88 | 71-133 | 16 | 35 | mg/kg | 10.31.19 11:02 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 100 | | 70-130 | % | 10.31.19 11:02 |
| 4-Bromofluorobenzene | 113 | | 110 | | 70-130 | % | 10.31.19 11:02 |

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

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

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

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

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# Chain of Custody

Work Order No: 641647

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine | ☑ |
| P.O. Number: | Lea County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 1.0 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 6 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS26 | s | 10/30/2019 | 12:58 | 1.5' | 1 | x | x | x | composite |
| FS27 | s | 10/30/2019 | 14:35 | 1.5' | 1 | x | x | x | composi |
| SW06 | s | 10/30/2019 | 13:00 | 1' | 1 | x | x | x | composite |
| SW07 | s | 10/30/2019 | 14:10 | 1' | 1 | x | x | x | composite |
| SW08 | s | 10/30/2019 | 14:28 | 1' | 1 | x | x | x | composite |
| SW09 | s | 10/30/2019 | 14:30 | 1' | 1 | x | x | x | composite |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 10/31/19 08:20 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/31/2019 08:20:00 AM

**Work Order #:** 641647

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 10/31/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/31/2019

Jessica Kramer

# Analytical Report 642011

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**06-NOV-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)

06-NOV-19

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

Reference: XENCO Report No(s): **642011**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 642011. 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. 642011 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH17A | S | 11-04-19 10:07 | 1 ft | 642011-001 |
| BH17B | S | 11-04-19 10:10 | 2 ft | 642011-002 |
| BH18A | S | 11-04-19 11:08 | 1 ft | 642011-003 |
| BH18B | S | 11-04-19 11:10 | 2 ft | 642011-004 |
| BH19A | S | 11-04-19 12:40 | 1 ft | 642011-005 |
| BH19B | S | 11-04-19 12:43 | 2 ft | 642011-006 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *642011*

Report Date: *06-NOV-19*
Date Received: *11/04/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3106436 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 642011

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Mon Nov-04-19 04:05 pm
**Report Date:** 06-NOV-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 642011-001 | | 642011-002 | | 642011-003 | | 642011-004 | | 642011-005 | | 642011-006 | |
| | ***Field Id:*** | BH17A | | BH17B | | BH18A | | BH18B | | BH19A | | BH19B | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Nov-04-19 10:07 | | Nov-04-19 10:10 | | Nov-04-19 11:08 | | Nov-04-19 11:10 | | Nov-04-19 12:40 | | Nov-04-19 12:43 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-04-19 18:11 | | Nov-04-19 18:11 | | Nov-04-19 18:11 | | Nov-04-19 18:11 | | Nov-04-19 18:11 | | Nov-04-19 18:11 | |
| | ***Analyzed:*** | Nov-05-19 02:31 | | Nov-05-19 02:51 | | Nov-05-19 03:10 | | Nov-05-19 03:29 | | Nov-05-19 03:48 | | Nov-05-19 04:07 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00943 | 0.00943 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Toluene | | <0.00943 | 0.00943 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00943 | 0.00943 | <0.000996 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.0189 | 0.0189 | 0.00874 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| o-Xylene | | <0.00943 | 0.00943 | 0.00650 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00943 | 0.00943 | 0.0152 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00943 | 0.00943 | 0.0152 | 0.000996 | <0.000994 | 0.000994 | <0.000998 | 0.000998 | <0.00100 | 0.00100 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | ***Extracted:*** | Nov-05-19 11:11 | | Nov-05-19 11:11 | | Nov-05-19 11:11 | | Nov-05-19 11:11 | | Nov-05-19 11:11 | | Nov-05-19 11:11 | |
| | ***Analyzed:*** | Nov-05-19 13:09 | | Nov-05-19 13:29 | | Nov-05-19 13:35 | | Nov-05-19 13:54 | | Nov-05-19 14:01 | | Nov-05-19 14:07 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 357 | 49.6 | 111 | 9.96 | 486 | 9.96 | 62.9 | 9.98 | 480 | 49.8 | 40.8 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Nov-04-19 17:00 | | Nov-04-19 17:00 | | Nov-04-19 17:00 | | Nov-04-19 17:00 | | Nov-04-19 17:00 | | Nov-04-19 17:00 | |
| | ***Analyzed:*** | Nov-05-19 05:34 | | Nov-05-19 05:54 | | Nov-05-19 09:17 | | Nov-05-19 06:14 | | Nov-05-19 06:34 | | Nov-05-19 06:54 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.8 | 49.8 | <50.1 | 50.1 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | 160 | 49.8 | <50.1 | 50.1 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.8 | 49.8 | <50.1 | 50.1 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | 160 | 49.8 | <50.1 | 50.1 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total TPH | | 160 | 49.8 | <50.1 | 50.1 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <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.
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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH17A** Matrix: Soil Date Received:11.04.19 16.05

Lab Sample Id: 642011-001 Date Collected: 11.04.19 10.07 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.05.19 11.11 Basis: Wet Weight

Seq Number: 3106505

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **357** | 49.6 | mg/kg | 11.05.19 13.09 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.04.19 17.00 Basis: Wet Weight

Seq Number: 3106516

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 11.05.19 05.34 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **160** | 49.8 | mg/kg | 11.05.19 05.34 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 11.05.19 05.34 | U | 1 |
| **Total GRO-DRO** | PHC628 | **160** | 49.8 | mg/kg | 11.05.19 05.34 | | 1 |
| **Total TPH** | PHC635 | **160** | 49.8 | mg/kg | 11.05.19 05.34 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 11.05.19 05.34 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 11.05.19 05.34 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH17A** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-001 | Date Collected: | 11.04.19 10.07 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |
| Toluene | 108-88-3 | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0189 | 0.0189 | mg/kg | 11.05.19 02.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |
| Total BTEX | | <0.00943 | 0.00943 | mg/kg | 11.05.19 02.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 11.05.19 02.31 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 11.05.19 02.31 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH17B** Matrix: Soil Date Received:11.04.19 16.05

Lab Sample Id: 642011-002 Date Collected: 11.04.19 10.10 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.05.19 11.11 Basis: Wet Weight

Seq Number: 3106505

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **111** | 9.96 | mg/kg | 11.05.19 13.29 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.04.19 17.00 Basis: Wet Weight

Seq Number: 3106516

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 11.05.19 05.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 11.05.19 05.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 11.05.19 05.54 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 11.05.19 05.54 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 11.05.19 05.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 11.05.19 05.54 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 11.05.19 05.54 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH17B** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-002 | Date Collected: | 11.04.19 10.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 11.05.19 02.51 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 11.05.19 02.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 11.05.19 02.51 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00874** | 0.00199 | mg/kg | 11.05.19 02.51 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00650** | 0.000996 | mg/kg | 11.05.19 02.51 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0152** | 0.000996 | mg/kg | 11.05.19 02.51 | | 1 |
| **Total BTEX** | | **0.0152** | 0.000996 | mg/kg | 11.05.19 02.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 11.05.19 02.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 123 | % | 70-130 | 11.05.19 02.51 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH18A** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-003 | Date Collected: | 11.04.19 11.08 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.05.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3106505 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **486** | 9.96 | mg/kg | 11.05.19 13.35 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.04.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3106516 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 11.05.19 09.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 11.05.19 09.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 11.05.19 09.17 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 11.05.19 09.17 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 11.05.19 09.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 11.05.19 09.17 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 11.05.19 09.17 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH18A** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-003 | Date Collected: | 11.04.19 11.08 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 11.05.19 03.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 11.05.19 03.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 11.05.19 03.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 11.05.19 03.10 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH18B** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-004 | Date Collected: | 11.04.19 11.10 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.05.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3106505 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **62.9** | 9.98 | mg/kg | 11.05.19 13.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.04.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3106516 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 11.05.19 06.14 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 11.05.19 06.14 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 11.05.19 06.14 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 11.05.19 06.14 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 11.05.19 06.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 77 | % | 70-135 | 11.05.19 06.14 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 11.05.19 06.14 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH18B** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-004 | Date Collected: | 11.04.19 11.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.05.19 03.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 11.05.19 03.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 85 | % | 70-130 | 11.05.19 03.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 11.05.19 03.29 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH19A** Matrix: Soil Date Received:11.04.19 16.05

Lab Sample Id: 642011-005 Date Collected: 11.04.19 12.40 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.05.19 11.11 Basis: Wet Weight

Seq Number: 3106505

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **480** | 49.8 | mg/kg | 11.05.19 14.01 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.04.19 17.00 Basis: Wet Weight

Seq Number: 3106516

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 11.05.19 06.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 11.05.19 06.34 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 11.05.19 06.34 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 11.05.19 06.34 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 11.05.19 06.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 11.05.19 06.34 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 11.05.19 06.34 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH19A** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-005 | Date Collected: | 11.04.19 12.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.05.19 03.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.05.19 03.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 11.05.19 03.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 95 | % | 70-130 | 11.05.19 03.48 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH19B** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-006 | Date Collected: | 11.04.19 12.43 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.05.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3106505 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **40.8** | 9.98 | mg/kg | 11.05.19 14.07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.04.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3106516 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 11.05.19 06.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 11.05.19 06.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 11.05.19 06.54 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 11.05.19 06.54 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 11.05.19 06.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 11.05.19 06.54 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 11.05.19 06.54 | |

# Certificate of Analytical Results 642011

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH19B** | Matrix: | Soil | Date Received: | 11.04.19 16.05 |
| Lab Sample Id: | 642011-006 | Date Collected: | 11.04.19 12.43 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.04.19 18.11 | Basis: | Wet Weight |
| Seq Number: | 3106436 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.05.19 04.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.05.19 04.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 11.05.19 04.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 11.05.19 04.07 | |

# 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

# QC Summary 642011



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106505 — Matrix: Solid — Date Prep: 11.05.19
MB Sample Id: 7689633-1-BLK — LCS Sample Id: 7689633-1-BKS — LCSD Sample Id: 7689633-1-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 | 235 | 94 | 237 | 95 | 90-110 | 1 | 20 | mg/kg | 11.05.19 11:33 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106505 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642010-001 — MS Sample Id: 642010-001 S — MSD Sample Id: 642010-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3020 | 200 | 3190 | 85 | 3160 | 70 | 90-110 | 1 | 20 | mg/kg | 11.05.19 11:51 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106505 — Matrix: Soil — Date Prep: 11.05.19
Parent Sample Id: 642011-001 — MS Sample Id: 642011-001 S — MSD Sample Id: 642011-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 357 | 198 | 564 | 105 | 567 | 106 | 90-110 | 1 | 20 | mg/kg | 11.05.19 13:16 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106516 — Matrix: Solid — Date Prep: 11.04.19
MB Sample Id: 7689601-1-BLK — LCS Sample Id: 7689601-1-BKS — LCSD Sample Id: 7689601-1-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 | 719 | 72 | 729 | 73 | 70-135 | 1 | 35 | mg/kg | 11.05.19 00:32 | |
| Diesel Range Organics (DRO) | <11.5 | 1000 | 791 | 79 | 782 | 78 | 70-135 | 1 | 35 | mg/kg | 11.05.19 00:32 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 75 | | 86 | | 82 | | 70-135 | % | 11.05.19 00:32 |
| o-Terphenyl | 77 | | 85 | | 80 | | 70-135 | % | 11.05.19 00:32 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106516 — Matrix: Solid — Date Prep: 11.04.19
MB Sample Id: 7689601-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 11.05.19 00:12 | |

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

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

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

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

# QC Summary 642011



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106516 — Matrix: Soil — Date Prep: 11.04.19
Parent Sample Id: 642010-009 — MS Sample Id: 642010-009 S — MSD Sample Id: 642010-009 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) | <50.3 | 1010 | 1010 | 100 | 1010 | 101 | 70-135 | 0 | 35 | mg/kg | 11.05.19 01:32 | |
| Diesel Range Organics (DRO) | 15.3 | 1010 | 1120 | 109 | 1100 | 108 | 70-135 | 2 | 35 | mg/kg | 11.05.19 01:32 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 117 | | 116 | | 70-135 | % | 11.05.19 01:32 |
| o-Terphenyl | 120 | | 134 | | 70-135 | % | 11.05.19 01:32 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106436 — Matrix: Solid — Date Prep: 11.04.19
MB Sample Id: 7689608-1-BLK — LCS Sample Id: 7689608-1-BKS — LCSD Sample Id: 7689608-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0916 | 92 | 0.0879 | 88 | 70-130 | 4 | 35 | mg/kg | 11.04.19 20:52 | |
| Toluene | <0.00100 | 0.100 | 0.0889 | 89 | 0.0853 | 85 | 70-130 | 4 | 35 | mg/kg | 11.04.19 20:52 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.0874 | 87 | 0.0836 | 84 | 71-129 | 4 | 35 | mg/kg | 11.04.19 20:52 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.185 | 93 | 0.176 | 88 | 70-135 | 5 | 35 | mg/kg | 11.04.19 20:52 | |
| o-Xylene | <0.00100 | 0.100 | 0.0943 | 94 | 0.0901 | 90 | 71-133 | 5 | 35 | mg/kg | 11.04.19 20:52 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 104 | | 101 | | 70-130 | % | 11.04.19 20:52 |
| 4-Bromofluorobenzene | 107 | | 115 | | 111 | | 70-130 | % | 11.04.19 20:52 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3106436 — Matrix: Soil — Date Prep: 11.04.19
Parent Sample Id: 642010-001 — MS Sample Id: 642010-001 S — MSD Sample Id: 642010-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00101 | 0.101 | 0.0519 | 51 | 0.0448 | 44 | 70-130 | 15 | 35 | mg/kg | 11.04.19 21:30 | X |
| Toluene | <0.00101 | 0.101 | 0.0579 | 57 | 0.0525 | 52 | 70-130 | 10 | 35 | mg/kg | 11.04.19 21:30 | X |
| Ethylbenzene | <0.00101 | 0.101 | 0.0558 | 55 | 0.0484 | 48 | 71-129 | 14 | 35 | mg/kg | 11.04.19 21:30 | X |
| m,p-Xylenes | <0.00202 | 0.202 | 0.111 | 55 | 0.102 | 50 | 70-135 | 8 | 35 | mg/kg | 11.04.19 21:30 | X |
| o-Xylene | <0.00101 | 0.101 | 0.0533 | 53 | 0.0992 | 98 | 71-133 | 60 | 35 | mg/kg | 11.04.19 21:30 | XF |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 95 | | 93 | | 70-130 | % | 11.04.19 21:30 |
| 4-Bromofluorobenzene | 83 | | 105 | | 70-130 | % | 11.04.19 21:30 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# Chain of Custody

Work Order No: W42011

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☑ |
| P.O. Number: | Lea County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 2.0 | Thermometer ID | T-NM-007 |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | 6 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH17A | s | 11/4/2019 | 10:07 | 1' | 1 | x | x | x | Discrete |
| BH17B | s | 11/4/2019 | 10:10 | 2' | 1 | x | x | x | Discrete |
| BH18A | s | 11/4/2019 | 11:08 | 1' | 1 | x | x | x | Discrete |
| BH18B | s | 11/4/2019 | 11:10 | 2' | 1 | x | x | x | Discrete |
| BH19A | s | 11/4/2019 | 12:40 | 1' | 1 | x | x | x | Discrete |
| BH19B | s | 11/4/2019 | 12:43 | 2' | 1 | x | x | x | Discrete |

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 11/4/19 16:05 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 11/04/2019 04:05:00 PM

**Work Order #:** 642011

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst:

PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 11/04/2019

**Checklist reviewed by:** Jessica Kramer Date: 11/06/2019

Jessica Kramer

# Analytical Report 642985

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**14-NOV-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)

14-NOV-19

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

Reference: XENCO Report No(s): **642985**
**EMSU CTB**
Project Address: Lea County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 642985. 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. 642985 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH20A | S | 11-12-19 12:17 | 1 ft | 642985-001 |
| BH20B | S | 11-12-19 12:20 | 2 ft | 642985-002 |
| BH21A | S | 11-12-19 12:27 | 1 ft | 642985-003 |
| BH21B | S | 11-12-19 12:32 | 2 ft | 642985-004 |
| BH22A | S | 11-12-19 12:54 | 1 ft | 642985-005 |
| BH22B | S | 11-12-19 13:00 | 2 ft | 642985-006 |
| BH23A | S | 11-12-19 13:07 | 1 ft | 642985-007 |
| BH23B | S | 11-12-19 13:11 | 2 ft | 642985-008 |
| BH24A | S | 11-12-19 13:20 | 1 ft | 642985-009 |
| BH24B | S | 11-12-19 13:27 | 2 ft | 642985-010 |
| FS28 | S | 11-12-19 13:40 | 1 ft | 642985-011 |
| FS29 | S | 11-12-19 13:50 | 2 ft | 642985-012 |
| FS30 | S | 11-12-19 13:55 | 1 ft | 642985-013 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *642985*

Report Date: *14-NOV-19*
Date Received: *11/12/2019*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3107423 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642985-013.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 642985

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Nov-12-19 04:14 pm
**Report Date:** 14-NOV-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 642985-001 | | 642985-002 | | 642985-003 | | 642985-004 | | 642985-005 | | 642985-006 | |
| | ***Field Id:*** | BH20A | | BH20B | | BH21A | | BH21B | | BH22A | | BH22B | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Nov-12-19 12:17 | | Nov-12-19 12:20 | | Nov-12-19 12:27 | | Nov-12-19 12:32 | | Nov-12-19 12:54 | | Nov-12-19 13:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | |
| | ***Analyzed:*** | Nov-13-19 14:27 | | Nov-13-19 14:48 | | Nov-13-19 15:08 | | Nov-13-19 15:29 | | Nov-13-19 15:49 | | Nov-13-19 16:09 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| Toluene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000996 | 0.000996 |
| **Chloride by EPA 300** | ***Extracted:*** | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | |
| | ***Analyzed:*** | Nov-13-19 17:27 | | Nov-13-19 17:45 | | Nov-13-19 17:51 | | Nov-13-19 17:56 | | Nov-13-19 18:02 | | Nov-13-19 18:20 | |
| | ***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 | <9.98 | 9.98 | 40.9 | 9.92 | 44.8 | 10.1 | 178 | 10.1 | 382 | 9.94 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | |
| | ***Analyzed:*** | Nov-14-19 01:35 | | Nov-14-19 02:36 | | Nov-14-19 02:56 | | Nov-14-19 03:16 | | Nov-14-19 03:36 | | Nov-14-19 03:56 | |
| | ***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 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 |
| Total GRO-DRO | | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 |
| Total TPH | | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.1 | 50.1 | <50.1 | 50.1 |

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 642985

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Nov-12-19 04:14 pm
**Report Date:** 14-NOV-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 642985-007 | | 642985-008 | | 642985-009 | | 642985-010 | | 642985-011 | | 642985-012 | |
| | ***Field Id:*** | BH23A | | BH23B | | BH24A | | BH24B | | FS28 | | FS29 | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Nov-12-19 13:07 | | Nov-12-19 13:11 | | Nov-12-19 13:20 | | Nov-12-19 13:27 | | Nov-12-19 13:40 | | Nov-12-19 13:50 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | | Nov-13-19 10:11 | |
| | ***Analyzed:*** | Nov-13-19 16:30 | | Nov-13-19 16:50 | | Nov-13-19 17:11 | | Nov-13-19 17:31 | | Nov-13-19 18:46 | | Nov-13-19 19:07 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| Toluene | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| Ethylbenzene | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| m,p-Xylenes | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 |
| o-Xylene | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| Total Xylenes | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| Total BTEX | | <0.000992 | 0.000992 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00100 | 0.00100 | <0.000994 | 0.000994 | <0.000992 | 0.000992 |
| **Chloride by EPA 300** | ***Extracted:*** | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | | Nov-13-19 11:11 | |
| | ***Analyzed:*** | Nov-13-19 18:26 | | Nov-13-19 18:32 | | Nov-13-19 18:38 | | Nov-13-19 18:43 | | Nov-13-19 18:49 | | Nov-13-19 19:07 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.92 | 9.92 | <9.98 | 9.98 | <9.88 | 9.88 | <10.0 | 10.0 | <10.1 | 10.1 | 38.6 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | | Nov-13-19 17:11 | |
| | ***Analyzed:*** | Nov-14-19 04:16 | | Nov-14-19 04:36 | | Nov-14-19 04:56 | | Nov-14-19 05:16 | | Nov-14-19 05:56 | | Nov-14-19 06:16 | |
| | ***Units/RL:*** | 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 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | 533 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | 57.5 | 50.3 |
| Total GRO-DRO | | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | 533 | 50.3 |
| Total TPH | | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | 591 | 50.3 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 642985

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea County

**Date Received in Lab:** Tue Nov-12-19 04:14 pm
**Report Date:** 14-NOV-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 642985-013 | | | | | |
| | ***Field Id:*** | FS30 | | | | | |
| | ***Depth:*** | 1- ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | Nov-12-19 13:55 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-13-19 10:11 | | | | | |
| | ***Analyzed:*** | Nov-13-19 19:27 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Benzene | | <0.00100 | 0.00100 | | | | |
| Toluene | | <0.00100 | 0.00100 | | | | |
| Ethylbenzene | | <0.00100 | 0.00100 | | | | |
| m,p-Xylenes | | <0.00200 | 0.00200 | | | | |
| o-Xylene | | <0.00100 | 0.00100 | | | | |
| Total Xylenes | | <0.00100 | 0.00100 | | | | |
| Total BTEX | | <0.00100 | 0.00100 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Nov-13-19 11:11 | | | | | |
| | ***Analyzed:*** | Nov-13-19 19:13 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Chloride | | 57.4 | 10.1 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Nov-13-19 17:11 | | | | | |
| | ***Analyzed:*** | Nov-14-19 06:36 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | | | | |
| Diesel Range Organics (DRO) | | 86.0 | 49.9 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | | | | |
| Total GRO-DRO | | 86.0 | 49.9 | | | | |
| Total TPH | | 86.0 | 49.9 | | | | |

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Jessica Kramer
Project Assistant

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH20A** Matrix: Soil Date Received:11.12.19 16.14
Lab Sample Id: 642985-001 Date Collected: 11.12.19 12.17 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 11.13.19 11.11 Basis: Wet Weight
Seq Number: 3107458

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 11.13.19 17.27 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 11.13.19 17.11 Basis: Wet Weight
Seq Number: 3107451

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 11.14.19 01.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 11.14.19 01.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 11.14.19 01.35 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 11.14.19 01.35 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 11.14.19 01.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 11.14.19 01.35 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 11.14.19 01.35 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH20A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-001 | Date Collected: | 11.12.19 12.17 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 14.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 11.13.19 14.27 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 11.13.19 14.27 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH20B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-002 | Date Collected: | 11.12.19 12.20 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 11.13.19 17.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 11.14.19 02.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 11.14.19 02.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 11.14.19 02.36 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 11.14.19 02.36 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 11.14.19 02.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 11.14.19 02.36 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 11.14.19 02.36 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH20B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-002 | Date Collected: | 11.12.19 12.20 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 11.13.19 14.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 14.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 11.13.19 14.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 11.13.19 14.48 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH21A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-003 | Date Collected: | 11.12.19 12.27 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **40.9** | 9.92 | mg/kg | 11.13.19 17.51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 11.14.19 02.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 11.14.19 02.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 11.14.19 02.56 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 11.14.19 02.56 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 11.14.19 02.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 11.14.19 02.56 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 11.14.19 02.56 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH21A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-003 | Date Collected: | 11.12.19 12.27 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 11.13.19 15.08 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 11.13.19 15.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 11.13.19 15.08 | |
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 11.13.19 15.08 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH21B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-004 | Date Collected: | 11.12.19 12.32 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.8** | 10.1 | mg/kg | 11.13.19 17.56 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 11.14.19 03.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 11.14.19 03.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 11.14.19 03.16 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 11.14.19 03.16 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 11.14.19 03.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 11.14.19 03.16 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 11.14.19 03.16 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH21B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-004 | Date Collected: | 11.12.19 12.32 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 15.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 11.13.19 15.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 11.13.19 15.29 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH22A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-005 | Date Collected: | 11.12.19 12.54 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **178** | 10.1 | mg/kg | 11.13.19 18.02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 11.14.19 03.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 11.14.19 03.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 11.14.19 03.36 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 11.14.19 03.36 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 11.14.19 03.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 11.14.19 03.36 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 11.14.19 03.36 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH22A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-005 | Date Collected: | 11.12.19 12.54 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 15.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 15.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 11.13.19 15.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 11.13.19 15.49 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH22B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-006 | Date Collected: | 11.12.19 13.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **382** | 9.94 | mg/kg | 11.13.19 18.20 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 11.14.19 03.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 11.14.19 03.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 11.14.19 03.56 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 11.14.19 03.56 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 11.14.19 03.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 11.14.19 03.56 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 11.14.19 03.56 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH22B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-006 | Date Collected: | 11.12.19 13.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 11.13.19 16.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |
| Total BTEX | | <0.000996 | 0.000996 | mg/kg | 11.13.19 16.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 128 | % | 70-130 | 11.13.19 16.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 11.13.19 16.09 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH23A** Matrix: Soil Date Received:11.12.19 16.14

Lab Sample Id: 642985-007 Date Collected: 11.12.19 13.07 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.13.19 11.11 Basis: Wet Weight

Seq Number: 3107458

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 11.13.19 18.26 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.13.19 17.11 Basis: Wet Weight

Seq Number: 3107451

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 11.14.19 04.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 11.14.19 04.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 11.14.19 04.16 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 11.14.19 04.16 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 11.14.19 04.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 11.14.19 04.16 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 11.14.19 04.16 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH23A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-007 | Date Collected: | 11.12.19 13.07 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |
| Toluene | 108-88-3 | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 11.13.19 16.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |
| Total BTEX | | <0.000992 | 0.000992 | mg/kg | 11.13.19 16.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 11.13.19 16.30 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 11.13.19 16.30 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH23B** Matrix: Soil Date Received:11.12.19 16.14

Lab Sample Id: 642985-008 Date Collected: 11.12.19 13.11 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.13.19 11.11 Basis: Wet Weight

Seq Number: 3107458

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 11.13.19 18.32 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.13.19 17.11 Basis: Wet Weight

Seq Number: 3107451

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 11.14.19 04.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 11.14.19 04.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 11.14.19 04.36 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 11.14.19 04.36 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 11.14.19 04.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 11.14.19 04.36 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 11.14.19 04.36 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH23B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-008 | Date Collected: | 11.12.19 13.11 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 16.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 11.13.19 16.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 11.13.19 16.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 11.13.19 16.50 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **BH24A** Matrix: Soil Date Received:11.12.19 16.14

Lab Sample Id: 642985-009 Date Collected: 11.12.19 13.20 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.13.19 11.11 Basis: Wet Weight

Seq Number: 3107458

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 11.13.19 18.38 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.13.19 17.11 Basis: Wet Weight

Seq Number: 3107451

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 11.14.19 04.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 11.14.19 04.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 11.14.19 04.56 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 11.14.19 04.56 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 11.14.19 04.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 11.14.19 04.56 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 11.14.19 04.56 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH24A** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-009 | Date Collected: | 11.12.19 13.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 11.13.19 17.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 11.13.19 17.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 11.13.19 17.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 11.13.19 17.11 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH24B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-010 | Date Collected: | 11.12.19 13.27 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 11.13.19 18.43 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 11.14.19 05.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 11.14.19 05.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 11.14.19 05.16 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 11.14.19 05.16 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 11.14.19 05.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 11.14.19 05.16 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 11.14.19 05.16 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH24B** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-010 | Date Collected: | 11.12.19 13.27 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 17.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 17.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 11.13.19 17.31 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 11.13.19 17.31 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS28** Matrix: Soil Date Received:11.12.19 16.14

Lab Sample Id: 642985-011 Date Collected: 11.12.19 13.40 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 11.13.19 11.11 Basis: Wet Weight

Seq Number: 3107458

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 11.13.19 18.49 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 11.13.19 17.11 Basis: Wet Weight

Seq Number: 3107451

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 11.14.19 05.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 11.14.19 05.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 11.14.19 05.56 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 11.14.19 05.56 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 11.14.19 05.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 11.14.19 05.56 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 11.14.19 05.56 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS28** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-011 | Date Collected: | 11.12.19 13.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 11.13.19 18.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 11.13.19 18.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 11.13.19 18.46 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 11.13.19 18.46 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS29** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-012 | Date Collected: | 11.12.19 13.50 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **38.6** | 10.0 | mg/kg | 11.13.19 19.07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 11.14.19 06.16 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **533** | 50.3 | mg/kg | 11.14.19 06.16 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **57.5** | 50.3 | mg/kg | 11.14.19 06.16 | | 1 |
| **Total GRO-DRO** | PHC628 | **533** | 50.3 | mg/kg | 11.14.19 06.16 | | 1 |
| **Total TPH** | PHC635 | **591** | 50.3 | mg/kg | 11.14.19 06.16 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 11.14.19 06.16 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 11.14.19 06.16 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS29** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-012 | Date Collected: | 11.12.19 13.50 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |
| Toluene | 108-88-3 | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 11.13.19 19.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |
| Total BTEX | | <0.000992 | 0.000992 | mg/kg | 11.13.19 19.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 11.13.19 19.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 11.13.19 19.07 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS30** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-013 | Date Collected: | 11.12.19 13.55 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 11.11 | Basis: | Wet Weight |
| Seq Number: | 3107458 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.4** | 10.1 | mg/kg | 11.13.19 19.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 11.13.19 17.11 | Basis: | Wet Weight |
| Seq Number: | 3107451 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 11.14.19 06.36 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **86.0** | 49.9 | mg/kg | 11.14.19 06.36 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 11.14.19 06.36 | U | 1 |
| **Total GRO-DRO** | PHC628 | **86.0** | 49.9 | mg/kg | 11.14.19 06.36 | | 1 |
| **Total TPH** | PHC635 | **86.0** | 49.9 | mg/kg | 11.14.19 06.36 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 11.14.19 06.36 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 11.14.19 06.36 | |

# Certificate of Analytical Results 642985

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS30** | Matrix: | Soil | Date Received: | 11.12.19 16.14 |
| Lab Sample Id: | 642985-013 | Date Collected: | 11.12.19 13.55 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 11.13.19 10.11 | Basis: | Wet Weight |
| Seq Number: | 3107423 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 11.13.19 19.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 11.13.19 19.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 135 | % | 70-130 | 11.13.19 19.27 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 11.13.19 19.27 | |

# 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

# QC Summary 642985



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107458 — Matrix: Solid — Date Prep: 11.13.19
MB Sample Id: 7690332-1-BLK — LCS Sample Id: 7690332-1-BKS — LCSD Sample Id: 7690332-1-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 | 11.13.19 17:15 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107458 — Matrix: Soil — Date Prep: 11.13.19
Parent Sample Id: 642985-001 — MS Sample Id: 642985-001 S — MSD Sample Id: 642985-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 201 | 201 | 100 | 203 | 100 | 90-110 | 1 | 20 | mg/kg | 11.13.19 17:33 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107458 — Matrix: Soil — Date Prep: 11.13.19
Parent Sample Id: 642985-011 — MS Sample Id: 642985-011 S — MSD Sample Id: 642985-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3.86 | 202 | 205 | 100 | 206 | 100 | 90-110 | 0 | 20 | mg/kg | 11.13.19 18:55 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3107451 — Matrix: Solid — Date Prep: 11.13.19
MB Sample Id: 7690328-1-BLK — LCS Sample Id: 7690328-1-BKS — LCSD Sample Id: 7690328-1-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 | 866 | 87 | 900 | 90 | 70-135 | 4 | 35 | mg/kg | 11.14.19 00:55 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 990 | 99 | 1020 | 102 | 70-135 | 3 | 35 | mg/kg | 11.14.19 00:55 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 93 | | 118 | | 121 | | 70-135 | % | 11.14.19 00:55 |
| o-Terphenyl | 102 | | 107 | | 110 | | 70-135 | % | 11.14.19 00:55 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3107451 — Matrix: Solid — Date Prep: 11.13.19
MB Sample Id: 7690328-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 11.14.19 00:35 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 642985



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3107451 — Matrix: Soil — Date Prep: 11.13.19
Parent Sample Id: 642985-001 — MS Sample Id: 642985-001 S — MSD Sample Id: 642985-001 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 | 908 | 90 | 898 | 90 | 70-135 | 1 | 35 | mg/kg | 11.14.19 01:55 | |
| Diesel Range Organics (DRO) | <50.3 | 1010 | 1040 | 103 | 1010 | 101 | 70-135 | 3 | 35 | mg/kg | 11.14.19 01:55 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 122 | | 120 | | 70-135 | % | 11.14.19 01:55 |
| o-Terphenyl | 112 | | 108 | | 70-135 | % | 11.14.19 01:55 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3107423 — Matrix: Solid — Date Prep: 11.13.19
MB Sample Id: 7690306-1-BLK — LCS Sample Id: 7690306-1-BKS — LCSD Sample Id: 7690306-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.122 | 122 | 0.116 | 116 | 70-130 | 5 | 35 | mg/kg | 11.13.19 12:31 | |
| Toluene | <0.000500 | 0.100 | 0.122 | 122 | 0.116 | 116 | 70-130 | 5 | 35 | mg/kg | 11.13.19 12:31 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.127 | 127 | 0.120 | 120 | 71-129 | 6 | 35 | mg/kg | 11.13.19 12:31 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.255 | 128 | 0.241 | 121 | 70-135 | 6 | 35 | mg/kg | 11.13.19 12:31 | |
| o-Xylene | <0.00100 | 0.100 | 0.127 | 127 | 0.121 | 121 | 71-133 | 5 | 35 | mg/kg | 11.13.19 12:31 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 100 | | 99 | | 70-130 | % | 11.13.19 12:31 |
| 4-Bromofluorobenzene | 116 | | 117 | | 115 | | 70-130 | % | 11.13.19 12:31 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3107423 — Matrix: Soil — Date Prep: 11.13.19
Parent Sample Id: 642985-001 — MS Sample Id: 642985-001 S — MSD Sample Id: 642985-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000998 | 0.0998 | 0.108 | 108 | 0.114 | 114 | 70-130 | 5 | 35 | mg/kg | 11.13.19 13:12 | |
| Toluene | 0.000560 | 0.0998 | 0.118 | 118 | 0.114 | 114 | 70-130 | 3 | 35 | mg/kg | 11.13.19 13:12 | |
| Ethylbenzene | <0.000998 | 0.0998 | 0.125 | 125 | 0.117 | 117 | 71-129 | 7 | 35 | mg/kg | 11.13.19 13:12 | |
| m,p-Xylenes | <0.000998 | 0.200 | 0.241 | 121 | 0.235 | 118 | 70-135 | 3 | 35 | mg/kg | 11.13.19 13:12 | |
| o-Xylene | <0.000998 | 0.0998 | 0.120 | 120 | 0.117 | 117 | 71-133 | 3 | 35 | mg/kg | 11.13.19 13:12 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 93 | | 99 | | 70-130 | % | 11.13.19 13:12 |
| 4-Bromofluorobenzene | 99 | | 116 | | 70-130 | % | 11.13.19 13:12 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 642995

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 2

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine | ☑ |
| P.O. Number: | Lea County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 3.4 | Thermometer ID | | |
| Received Intact: | (Yes) No | T-NM-007 | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 13 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| BH20A | s | 11/12/2019 | 12:17 | 1' | 1 | x | x | x |
| BH20B | s | 11/12/2019 | 12:20 | 2' | 1 | x | x | x |
| BH21A | s | 11/12/2019 | 12:27 | 1' | 1 | x | x | x |
| BH21B | s | 11/12/2019 | 12:32 | 2' | 1 | x | x | x |
| BH22A | s | 11/12/2019 | 12:54 | 1' | 1 | x | x | x |
| BH22B | s | 11/12/2019 | 13:00 | 2' | 1 | x | x | x |
| BH23A | s | 11/12/2019 | 13:07 | 1' | 1 | x | x | x |
| BH23B | s | 11/12/2019 | 13:11 | 2' | 1 | x | x | x |
| BH24A | s | 11/12/2019 | 13:20 | 1' | 1 | x | x | x |
| BH24B | s | 11/12/2019 | 13:27 | 2' | 1 | x | x | x |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

discrete (×10)

**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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 11/12/19 16:42 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

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# Chain of Custody

Work Order No: ~~642895~~ 642985

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



| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☑ |
| P.O. Number: | Lea County | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS28 | s | 11/12/2019 | 13:40 | 1.5' | 1 | x | x | x | discrete |
| FS29 | s | 11/12/2019 | 13:50 | 1.5' | 1 | x | x | x | discrete |
| FS30 | s | 11/12/2019 | 13:55 | 1.5' | 1 | x | x | x | discrete |

ANALYSIS REQUEST

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 11/12/19 1021:42 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Date 051418 Rev. 2018.1

Received by OCD: 4/23/2020 1:28:56 PM

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# Analytical Report 647777

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**03-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)

03-JAN-20

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

Reference: XENCO Report No(s): **647777**
**EMSU CTB**
Project Address: Lea

**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) 647777. 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. 647777 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,

Holly Taylor

**Holly Taylor**
Project Manager

***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 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS 31 | S | 12-30-19 14:06 | 1.5 ft | 647777-001 |
| FS 32 | S | 12-30-19 14:09 | 1.5 ft | 647777-002 |
| FS 33 | S | 12-30-19 14:13 | 1.5 ft | 647777-003 |
| FS 34 | S | 12-30-19 14:18 | 1.5 ft | 647777-004 |
| FS 35 | S | 12-30-19 14:24 | 1.5 ft | 647777-005 |
| FS 36 | S | 12-30-19 14:27 | 1.5 ft | 647777-006 |
| FS 37 | S | 12-30-19 14:36 | 1.5 ft | 647777-007 |
| FS 38 | S | 12-30-19 14:41 | 1.5 ft | 647777-008 |
| FS 39 | S | 12-30-19 14:41 | 1.5 ft | 647777-009 |
| FS 40 | S | 12-30-19 14:51 | 1.5 ft | 647777-010 |
| FS 41 | S | 12-31-19 09:12 | 1.5 ft | 647777-011 |
| FS 42 | S | 12-31-19 09:17 | 1.5 ft | 647777-012 |
| FS 43 | S | 12-31-19 09:20 | 1.5 ft | 647777-013 |
| FS 44 | S | 12-31-19 09:25 | 1.5 ft | 647777-014 |
| FS 45 | S | 12-31-19 09:29 | 1.5 ft | 647777-015 |
| FS 46 | S | 12-31-19 09:35 | 1.5 ft | 647777-016 |
| FS 47 | S | 12-31-19 09:40 | 1.5 ft | 647777-017 |
| FS 48 | S | 12-31-19 10:08 | 1.5 ft | 647777-018 |
| FS 49 | S | 12-31-19 10:10 | 1.5 ft | 647777-019 |
| FS 50 | S | 12-31-19 10:14 | 1.5 ft | 647777-020 |
| FS 51 | S | 12-31-19 10:19 | 1.5 ft | 647777-021 |
| FS 52 | S | 12-31-19 10:22 | 1.5 ft | 647777-022 |
| FS 53 | S | 12-31-19 10:26 | 1.5 ft | 647777-023 |
| FS 54 | S | 12-31-19 11:08 | .5 ft | 647777-024 |
| FS 55 | S | 12-31-19 11:13 | .5 ft | 647777-025 |
| FS 56 | S | 12-31-19 11:18 | 1.5 ft | 647777-026 |
| FS 57 | S | 12-31-19 11:23 | 1.5 ft | 647777-027 |
| FS 58 | S | 12-31-19 11:29 | 1.5 ft | 647777-028 |
| FS 59 | S | 12-31-19 11:33 | 1.5 ft | 647777-029 |
| FS 60 | S | 12-31-19 12:39 | 1.5 ft | 647777-030 |
| FS 61 | S | 12-31-19 12:43 | 1.5 ft | 647777-031 |
| FS 62 | S | 12-31-19 12:47 | 1.5 ft | 647777-032 |
| FS 63 | S | 12-31-19 12:50 | 1.5 ft | 647777-033 |
| FS 64 | S | 12-31-19 12:53 | 1.5 ft | 647777-034 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *647777*

Report Date: *03-JAN-20*
Date Received: *01/02/2020*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3112250 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3112253 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 647777-001 | | 647777-002 | | 647777-003 | | 647777-004 | | 647777-005 | | 647777-006 | |
| | ***Field Id:*** | FS 31 | | FS 32 | | FS 33 | | FS 34 | | FS 35 | | FS 36 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-30-19 14:06 | | Dec-30-19 14:09 | | Dec-30-19 14:13 | | Dec-30-19 14:18 | | Dec-30-19 14:24 | | Dec-30-19 14:27 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 14:38 | | Jan-02-20 14:55 | | Jan-02-20 15:13 | | Jan-02-20 15:30 | | Jan-02-20 15:48 | | Jan-02-20 16:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00396 | 0.00396 | <0.00397 | 0.00397 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 12:44 | | Jan-02-20 13:02 | | Jan-02-20 13:07 | | Jan-02-20 13:13 | | Jan-02-20 13:19 | | Jan-02-20 13:36 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 14.2 | 10.0 | <9.92 | 9.92 | <9.98 | 9.98 | <9.96 | 9.96 | 10.3 | 9.98 | <9.92 | 9.92 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | |
| | ***Analyzed:*** | Jan-02-20 12:05 | | Jan-02-20 12:25 | | Jan-02-20 12:45 | | Jan-02-20 12:45 | | Jan-02-20 13:05 | | Jan-02-20 13:05 | |
| | ***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 | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <49.9 | 49.9 | 54.6 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.1 | 50.1 |
| Total GRO-DRO | | <50.1 | 50.1 | <49.9 | 49.9 | 54.6 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.1 | 50.1 |
| Total TPH | | <50.1 | 50.1 | <49.9 | 49.9 | 54.6 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.1 | 50.1 |

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

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

Holly Taylor
Project Manager

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 647777-007 | | 647777-008 | | 647777-009 | | 647777-010 | | 647777-011 | | 647777-012 | |
| | ***Field Id:*** | FS 37 | | FS 38 | | FS 39 | | FS 40 | | FS 41 | | FS 42 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-30-19 14:36 | | Dec-30-19 14:41 | | Dec-30-19 14:41 | | Dec-30-19 14:51 | | Dec-31-19 09:12 | | Dec-31-19 09:17 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 16:22 | | Jan-02-20 16:40 | | Jan-02-20 16:57 | | Jan-02-20 17:14 | | Jan-02-20 18:24 | | Jan-02-20 18:41 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00397 | 0.00397 | <0.00395 | 0.00395 | <0.00396 | 0.00396 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 13:42 | | Jan-02-20 13:48 | | Jan-02-20 13:54 | | Jan-02-20 13:59 | | Jan-02-20 14:05 | | Jan-02-20 14:22 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 22.8 | 9.92 | 13.4 | 10.1 | 46.2 | 10.1 | 13.6 | 10.0 | 110 | 9.92 | 31.3 | 10.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | |
| | ***Analyzed:*** | Jan-02-20 13:25 | | Jan-02-20 13:25 | | Jan-02-20 13:46 | | Jan-02-20 13:46 | | Jan-02-20 14:06 | | Jan-02-20 14:26 | |
| | ***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 | <49.8 | 49.8 | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | 65.6 | 50.2 | <49.8 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | 65.6 | 50.2 | <49.8 | 49.8 |
| Total TPH | | <50.1 | 50.1 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | 65.6 | 50.2 | <49.8 | 49.8 |

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Holly Taylor
Project Manager

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 647777-013 | | 647777-014 | | 647777-015 | | 647777-016 | | 647777-017 | | 647777-018 | |
| | *Field Id:* | FS 43 | | FS 44 | | FS 45 | | FS 46 | | FS 47 | | FS 48 | |
| | *Depth:* | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Dec-31-19 09:20 | | Dec-31-19 09:25 | | Dec-31-19 09:29 | | Dec-31-19 09:35 | | Dec-31-19 09:40 | | Dec-31-19 10:08 | |
| **BTEX by EPA 8021B** | *Extracted:* | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | *Analyzed:* | Jan-02-20 18:58 | | Jan-02-20 19:16 | | Jan-02-20 19:33 | | Jan-02-20 19:51 | | Jan-02-20 20:08 | | Jan-02-20 20:25 | |
| | *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 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00396 | 0.00396 | <0.00396 | 0.00396 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00398 | 0.00398 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | *Extracted:* | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | *Analyzed:* | Jan-02-20 14:28 | | Jan-02-20 14:52 | | Jan-02-20 14:58 | | Jan-02-20 15:10 | | Jan-02-20 15:16 | | Jan-02-20 15:22 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 116 | 9.98 | 286 | 9.94 | 108 | 9.98 | 74.6 | 10.1 | 840 | 10.0 | 33.6 | 9.94 |
| **TPH by SW8015 Mod** | *Extracted:* | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 10:40 | |
| | *Analyzed:* | Jan-02-20 14:26 | | Jan-02-20 14:46 | | Jan-02-20 14:46 | | Jan-02-20 15:06 | | Jan-02-20 15:06 | | Jan-02-20 15:26 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | <50.3 | 50.3 | 57.3 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 | <50.3 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 | <50.3 | 50.3 |
| Total GRO-DRO | | <50.3 | 50.3 | 57.3 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 | <50.3 | 50.3 |
| Total TPH | | <50.3 | 50.3 | 57.3 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.3 | 50.3 | <50.3 | 50.3 |

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Holly Taylor
Project Manager

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 647777-019 | | 647777-020 | | 647777-021 | | 647777-022 | | 647777-023 | | 647777-024 | |
| | ***Field Id:*** | FS 49 | | FS 50 | | FS 51 | | FS 52 | | FS 53 | | FS 54 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | .5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-31-19 10:10 | | Dec-31-19 10:14 | | Dec-31-19 10:19 | | Dec-31-19 10:22 | | Dec-31-19 10:26 | | Dec-31-19 11:08 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 20:43 | | Jan-02-20 21:00 | | Jan-02-20 14:34 | | Jan-02-20 14:53 | | Jan-02-20 15:12 | | Jan-02-20 15:31 | |
| | ***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 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | |
| | ***Analyzed:*** | Jan-02-20 15:27 | | Jan-02-20 15:33 | | Jan-02-20 16:08 | | Jan-02-20 16:25 | | Jan-02-20 16:31 | | Jan-02-20 16:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 11.0 | 9.98 | 16.9 | 10.1 | <10.0 | 10.0 | 14.0 | 10.0 | 16.6 | 9.90 | 21.3 | 9.94 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-02-20 10:40 | | Jan-02-20 10:40 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | |
| | ***Analyzed:*** | Jan-02-20 15:26 | | Jan-02-20 15:46 | | Jan-02-20 16:27 | | Jan-02-20 17:07 | | Jan-02-20 17:07 | | Jan-02-20 17:27 | |
| | ***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 | <50.0 | 50.0 | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.3 | 50.3 | <50.2 | 50.2 | 54.0 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 |
| Total GRO-DRO | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.3 | 50.3 | <50.2 | 50.2 | 54.0 | 50.0 |
| Total TPH | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.3 | 50.3 | <50.2 | 50.2 | 54.0 | 50.0 |

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

Holly Taylor
Project Manager

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 647777-025 | | 647777-026 | | 647777-027 | | 647777-028 | | 647777-029 | | 647777-030 | |
| | ***Field Id:*** | FS 55 | | FS 56 | | FS 57 | | FS 58 | | FS 59 | | FS 60 | |
| | ***Depth:*** | .5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-31-19 11:13 | | Dec-31-19 11:18 | | Dec-31-19 11:23 | | Dec-31-19 11:29 | | Dec-31-19 11:33 | | Dec-31-19 12:39 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | |
| | ***Analyzed:*** | Jan-02-20 15:51 | | Jan-02-20 16:10 | | Jan-02-20 16:29 | | Jan-02-20 16:48 | | Jan-02-20 17:07 | | Jan-02-20 17:26 | |
| | ***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 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00397 | 0.00397 | <0.00398 | 0.00398 | <0.00401 | 0.00401 | <0.00400 | 0.00400 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | |
| | ***Analyzed:*** | Jan-02-20 16:42 | | Jan-02-20 17:00 | | Jan-02-20 17:06 | | Jan-02-20 17:12 | | Jan-02-20 17:18 | | Jan-02-20 17:24 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 16.5 | 10.1 | 41.5 | 10.0 | 61.2 | 10.1 | 90.6 | 10.1 | 134 | 9.94 | 134 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | |
| | ***Analyzed:*** | Jan-02-20 17:27 | | Jan-02-20 17:47 | | Jan-02-20 17:47 | | Jan-02-20 18:07 | | Jan-02-20 18:07 | | Jan-02-20 18:27 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | 111 | 50.3 | <49.8 | 49.8 | 97.4 | 50.3 | <49.8 | 49.8 | 75.6 | 50.2 | 117 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <49.8 | 49.8 | <50.3 | 50.3 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Total GRO-DRO | | 111 | 50.3 | <49.8 | 49.8 | 97.4 | 50.3 | <49.8 | 49.8 | 75.6 | 50.2 | 117 | 50.1 |
| Total TPH | | 111 | 50.3 | <49.8 | 49.8 | 97.4 | 50.3 | <49.8 | 49.8 | 75.6 | 50.2 | 117 | 50.1 |

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Holly Taylor
Project Manager

# Certificate of Analysis Summary 647777

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-02-20 09:03 am
**Report Date:** 03-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 647777-031 | | 647777-032 | | 647777-033 | | 647777-034 | | | | | |
| | ***Field Id:*** | FS 61 | | FS 62 | | FS 63 | | FS 64 | | | | | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Dec-31-19 12:43 | | Dec-31-19 12:47 | | Dec-31-19 12:50 | | Dec-31-19 12:53 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | Jan-02-20 12:00 | | | | | |
| | ***Analyzed:*** | Jan-02-20 18:24 | | Jan-02-20 18:43 | | Jan-02-20 19:02 | | Jan-02-20 19:21 | | | | | |
| | ***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 | <0.00200 | 0.00200 | | | | |
| Toluene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | | | | |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | | | | |
| m,p-Xylenes | | <0.00404 | 0.00404 | <0.00402 | 0.00402 | <0.00404 | 0.00404 | <0.00400 | 0.00400 | | | | |
| o-Xylene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | | | | |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | | | | |
| Total BTEX | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | Jan-02-20 12:30 | | | | | |
| | ***Analyzed:*** | Jan-02-20 17:30 | | Jan-02-20 17:49 | | Jan-02-20 17:55 | | Jan-02-20 18:14 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 36.1 | 9.94 | 33.6 | 9.98 | 309 | 9.94 | 82.1 | 9.96 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | Jan-02-20 13:00 | | | | | |
| | ***Analyzed:*** | Jan-02-20 18:47 | | Jan-02-20 18:47 | | Jan-02-20 19:07 | | Jan-02-20 19:07 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <50.1 | 50.1 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.1 | 50.1 | 97.1 | 50.0 | <50.0 | 50.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.1 | 50.1 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Total GRO-DRO | | <50.0 | 50.0 | <50.1 | 50.1 | 97.1 | 50.0 | <50.0 | 50.0 | | | | |
| Total TPH | | <50.0 | 50.0 | <50.1 | 50.1 | 97.1 | 50.0 | <50.0 | 50.0 | | | | |

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



Holly Taylor
Project Manager

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 31** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-001 Date Collected: 12.30.19 14.06 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.2** | 10.0 | mg/kg | 01.02.20 12.44 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 12.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 12.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 12.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 12.05 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 12.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 75 | % | 70-135 | 01.02.20 12.05 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 01.02.20 12.05 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 31** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-001 | Date Collected: | 12.30.19 14.06 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 14.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 14.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.02.20 14.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 14.38 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 32** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-002 | Date Collected: | 12.30.19 14.09 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112260 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.02.20 13.02 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.02.20 10.40 | Basis: | Wet Weight |
| Seq Number: | 3112247 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.02.20 12.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.02.20 12.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.02.20 12.25 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.02.20 12.25 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.02.20 12.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 73 | % | 70-135 | 01.02.20 12.25 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 01.02.20 12.25 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 32** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-002 | Date Collected: | 12.30.19 14.09 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.02.20 14.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.02.20 14.55 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.02.20 14.55 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 33** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-003 | Date Collected: | 12.30.19 14.13 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112260 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.02.20 13.07 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.02.20 10.40 | Basis: | Wet Weight |
| Seq Number: | 3112247 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.02.20 12.45 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **54.6** | 49.9 | mg/kg | 01.02.20 12.45 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.02.20 12.45 | U | 1 |
| **Total GRO-DRO** | PHC628 | **54.6** | 49.9 | mg/kg | 01.02.20 12.45 | | 1 |
| **Total TPH** | PHC635 | **54.6** | 49.9 | mg/kg | 01.02.20 12.45 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 01.02.20 12.45 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 01.02.20 12.45 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 33** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-003 | Date Collected: | 12.30.19 14.13 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.02.20 15.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.02.20 15.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.02.20 15.13 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 34** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-004 Date Collected: 12.30.19 14.18 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight
Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.96 | 9.96 | mg/kg | 01.02.20 13.13 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight
Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.02.20 12.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.02.20 12.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.02.20 12.45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.02.20 12.45 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.02.20 12.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 73 | % | 70-135 | 01.02.20 12.45 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 01.02.20 12.45 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 34** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-004 | Date Collected: | 12.30.19 14.18 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.02.20 15.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.02.20 15.30 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.02.20 15.30 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 35** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-005 Date Collected: 12.30.19 14.24 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight
Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.3** | 9.98 | mg/kg | 01.02.20 13.19 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight
Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 01.02.20 13.05 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 01.02.20 13.05 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 35** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-005 | Date Collected: | 12.30.19 14.24 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.02.20 15.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 15.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.02.20 15.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.02.20 15.48 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 36** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-006 Date Collected: 12.30.19 14.27 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.02.20 13.36 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 13.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 73 | % | 70-135 | 01.02.20 13.05 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 01.02.20 13.05 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 36** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-006 | Date Collected: | 12.30.19 14.27 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 16.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.02.20 16.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 16.05 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 37** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-007 Date Collected: 12.30.19 14.36 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.8** | 9.92 | mg/kg | 01.02.20 13.42 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 13.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 13.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 13.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 13.25 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 13.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 01.02.20 13.25 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 01.02.20 13.25 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 37** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-007 | Date Collected: | 12.30.19 14.36 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.02.20 16.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 16.22 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.02.20 16.22 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 38** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-008 Date Collected: 12.30.19 14.41 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.4** | 10.1 | mg/kg | 01.02.20 13.48 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 13.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.02.20 13.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 13.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.02.20 13.25 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.02.20 13.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 01.02.20 13.25 | |
| o-Terphenyl | 84-15-1 | 75 | % | 70-135 | 01.02.20 13.25 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 38** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-008 | Date Collected: | 12.30.19 14.41 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.02.20 16.40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.02.20 16.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 01.02.20 16.40 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 39** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-009 Date Collected: 12.30.19 14.41 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight
Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **46.2** | 10.1 | mg/kg | 01.02.20 13.54 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight
Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.02.20 13.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.02.20 13.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.02.20 13.46 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.02.20 13.46 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.02.20 13.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 01.02.20 13.46 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 01.02.20 13.46 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 39** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-009 | Date Collected: | 12.30.19 14.41 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00395 | 0.00395 | mg/kg | 01.02.20 16.57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.02.20 16.57 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.02.20 16.57 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 40** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-010 Date Collected: 12.30.19 14.51 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.6** | 10.0 | mg/kg | 01.02.20 13.59 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 13.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 13.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 13.46 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 13.46 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 13.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 72 | % | 70-135 | 01.02.20 13.46 | |
| o-Terphenyl | 84-15-1 | 73 | % | 70-135 | 01.02.20 13.46 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 40** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-010 | Date Collected: | 12.30.19 14.51 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.02.20 17.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 17.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.02.20 17.14 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.02.20 17.14 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 41** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-011 Date Collected: 12.31.19 09.12 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **110** | 9.92 | mg/kg | 01.02.20 14.05 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 14.06 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **65.6** | 50.2 | mg/kg | 01.02.20 14.06 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 14.06 | U | 1 |
| **Total GRO-DRO** | PHC628 | **65.6** | 50.2 | mg/kg | 01.02.20 14.06 | | 1 |
| **Total TPH** | PHC635 | **65.6** | 50.2 | mg/kg | 01.02.20 14.06 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 01.02.20 14.06 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 01.02.20 14.06 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 41** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-011 | Date Collected: | 12.31.19 09.12 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 18.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.02.20 18.24 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 18.24 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 42** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-012 Date Collected: 12.31.19 09.17 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **31.3** | 10.1 | mg/kg | 01.02.20 14.22 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.02.20 14.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.02.20 14.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.02.20 14.26 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.02.20 14.26 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.02.20 14.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 75 | % | 70-135 | 01.02.20 14.26 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 01.02.20 14.26 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 42** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-012 | Date Collected: | 12.31.19 09.17 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 18.41 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 18.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.02.20 18.41 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.02.20 18.41 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 43** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-013 Date Collected: 12.31.19 09.20 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **116** | 9.98 | mg/kg | 01.02.20 14.28 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 14.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.02.20 14.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 14.26 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.02.20 14.26 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.02.20 14.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 73 | % | 70-135 | 01.02.20 14.26 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 01.02.20 14.26 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 43** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-013 | Date Collected: | 12.31.19 09.20 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.02.20 18.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 18.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.02.20 18.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.02.20 18.58 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 44** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-014 Date Collected: 12.31.19 09.25 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **286** | 9.94 | mg/kg | 01.02.20 14.52 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **57.3** | 50.2 | mg/kg | 01.02.20 14.46 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| **Total GRO-DRO** | PHC628 | **57.3** | 50.2 | mg/kg | 01.02.20 14.46 | | 1 |
| **Total TPH** | PHC635 | **57.3** | 50.2 | mg/kg | 01.02.20 14.46 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 77 | % | 70-135 | 01.02.20 14.46 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 01.02.20 14.46 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 44** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-014 | Date Collected: | 12.31.19 09.25 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.02.20 19.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.02.20 19.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.02.20 19.16 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 45** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-015 Date Collected: 12.31.19 09.29 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **108** | 9.98 | mg/kg | 01.02.20 14.58 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.02.20 14.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.02.20 14.46 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 01.02.20 14.46 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 45** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-015 | Date Collected: | 12.31.19 09.29 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 19.33 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 19.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.02.20 19.33 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.02.20 19.33 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 46** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-016 Date Collected: 12.31.19 09.35 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **74.6** | 10.1 | mg/kg | 01.02.20 15.10 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 15.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.02.20 15.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 15.06 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.02.20 15.06 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.02.20 15.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 01.02.20 15.06 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 01.02.20 15.06 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 46** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-016 | Date Collected: | 12.31.19 09.35 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.02.20 19.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 19.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.02.20 19.51 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.02.20 19.51 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 47** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-017 Date Collected: 12.31.19 09.40 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **840** | 10.0 | mg/kg | 01.02.20 15.16 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 15.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.02.20 15.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 15.06 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.02.20 15.06 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.02.20 15.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 01.02.20 15.06 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 01.02.20 15.06 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 47** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-017 | Date Collected: | 12.31.19 09.40 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 20.08 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 20.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.02.20 20.08 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.02.20 20.08 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 48** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-018 Date Collected: 12.31.19 10.08 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.6** | 9.94 | mg/kg | 01.02.20 15.22 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 15.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.02.20 15.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 15.26 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.02.20 15.26 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.02.20 15.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 01.02.20 15.26 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 01.02.20 15.26 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 48** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-018 | Date Collected: | 12.31.19 10.08 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.02.20 20.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.02.20 20.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.02.20 20.25 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 49** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-019 Date Collected: 12.31.19 10.10 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight
Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.0** | 9.98 | mg/kg | 01.02.20 15.27 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight
Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 15.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.02.20 15.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 15.26 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.02.20 15.26 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.02.20 15.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 01.02.20 15.26 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 01.02.20 15.26 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 49** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-019 | Date Collected: | 12.31.19 10.10 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.02.20 20.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 20.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.02.20 20.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.02.20 20.43 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 50** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-020 Date Collected: 12.31.19 10.14 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.00 Basis: Wet Weight

Seq Number: 3112260

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.9** | 10.1 | mg/kg | 01.02.20 15.33 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 10.40 Basis: Wet Weight

Seq Number: 3112247

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.02.20 15.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.02.20 15.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.02.20 15.46 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.02.20 15.46 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.02.20 15.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 01.02.20 15.46 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 01.02.20 15.46 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 50** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-020 | Date Collected: | 12.31.19 10.14 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 21.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 21.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.02.20 21.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.02.20 21.00 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 51** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-021 Date Collected: 12.31.19 10.19 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.02.20 16.08 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 16.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.02.20 16.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 16.27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.02.20 16.27 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.02.20 16.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 01.02.20 16.27 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-135 | 01.02.20 16.27 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 51** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-021 | Date Collected: | 12.31.19 10.19 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.02.20 14.34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.02.20 14.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 14.34 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.02.20 14.34 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 52** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-022 | Date Collected: | 12.31.19 10.22 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.30 | Basis: | Wet Weight |
| Seq Number: | 3112261 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.0** | 10.0 | mg/kg | 01.02.20 16.25 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.02.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3112264 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 17.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.02.20 17.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.02.20 17.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 01.02.20 17.07 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.02.20 17.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 52** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-022 | Date Collected: | 12.31.19 10.22 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.02.20 14.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 14.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.02.20 14.53 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.02.20 14.53 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 53** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-023 Date Collected: 12.31.19 10.26 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.6** | 9.90 | mg/kg | 01.02.20 16.31 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 17.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.02.20 17.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.02.20 17.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 01.02.20 17.07 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 01.02.20 17.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 53** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-023 | Date Collected: | 12.31.19 10.26 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 15.12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 15.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.02.20 15.12 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.02.20 15.12 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 54** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-024 Date Collected: 12.31.19 11.08 Sample Depth: .5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight
Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **21.3** | 9.94 | mg/kg | 01.02.20 16.37 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight
Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 17.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **54.0** | 50.0 | mg/kg | 01.02.20 17.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 17.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **54.0** | 50.0 | mg/kg | 01.02.20 17.27 | | 1 |
| **Total TPH** | PHC635 | **54.0** | 50.0 | mg/kg | 01.02.20 17.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 01.02.20 17.27 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 01.02.20 17.27 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 54** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-024 | Date Collected: | 12.31.19 11.08 | Sample Depth: | .5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.02.20 15.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 15.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 15.31 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.02.20 15.31 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 55** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-025 Date Collected: 12.31.19 11.13 Sample Depth: .5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.5** | 10.1 | mg/kg | 01.02.20 16.42 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 17.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **111** | 50.3 | mg/kg | 01.02.20 17.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 17.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **111** | 50.3 | mg/kg | 01.02.20 17.27 | | 1 |
| **Total TPH** | PHC635 | **111** | 50.3 | mg/kg | 01.02.20 17.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 01.02.20 17.27 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.02.20 17.27 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 55** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-025 | Date Collected: | 12.31.19 11.13 | Sample Depth: | .5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.02.20 15.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.02.20 15.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.02.20 15.51 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.02.20 15.51 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 56** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-026 Date Collected: 12.31.19 11.18 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **41.5** | 10.0 | mg/kg | 01.02.20 17.00 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.02.20 17.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.02.20 17.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.02.20 17.47 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.02.20 17.47 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.02.20 17.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 01.02.20 17.47 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.02.20 17.47 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 56** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-026 | Date Collected: | 12.31.19 11.18 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.02.20 16.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.02.20 16.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.02.20 16.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.02.20 16.10 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 57** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-027 Date Collected: 12.31.19 11.23 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight
Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **61.2** | 10.1 | mg/kg | 01.02.20 17.06 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight
Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.02.20 17.47 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **97.4** | 50.3 | mg/kg | 01.02.20 17.47 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.02.20 17.47 | U | 1 |
| **Total GRO-DRO** | PHC628 | **97.4** | 50.3 | mg/kg | 01.02.20 17.47 | | 1 |
| **Total TPH** | PHC635 | **97.4** | 50.3 | mg/kg | 01.02.20 17.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 01.02.20 17.47 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 01.02.20 17.47 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 57** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-027 | Date Collected: | 12.31.19 11.23 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.02.20 16.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.02.20 16.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.02.20 16.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.02.20 16.29 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 58** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-028 Date Collected: 12.31.19 11.29 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight
Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **90.6** | 10.1 | mg/kg | 01.02.20 17.12 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight
Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.02.20 18.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.02.20 18.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.02.20 18.07 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.02.20 18.07 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.02.20 18.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 01.02.20 18.07 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.02.20 18.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 58** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-028 | Date Collected: | 12.31.19 11.29 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.02.20 16.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 16.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.02.20 16.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.02.20 16.48 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 59** Matrix: Soil Date Received:01.02.20 09.03
Lab Sample Id: 647777-029 Date Collected: 12.31.19 11.33 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight
Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **134** | 9.94 | mg/kg | 01.02.20 17.18 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight
Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.02.20 18.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **75.6** | 50.2 | mg/kg | 01.02.20 18.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.02.20 18.07 | U | 1 |
| **Total GRO-DRO** | PHC628 | **75.6** | 50.2 | mg/kg | 01.02.20 18.07 | | 1 |
| **Total TPH** | PHC635 | **75.6** | 50.2 | mg/kg | 01.02.20 18.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 01.02.20 18.07 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 01.02.20 18.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 59** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-029 | Date Collected: | 12.31.19 11.33 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.02.20 17.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.02.20 17.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.02.20 17.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 60** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-030 Date Collected: 12.31.19 12.39 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **134** | 9.98 | mg/kg | 01.02.20 17.24 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 18.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **117** | 50.1 | mg/kg | 01.02.20 18.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 18.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **117** | 50.1 | mg/kg | 01.02.20 18.27 | | 1 |
| **Total TPH** | PHC635 | **117** | 50.1 | mg/kg | 01.02.20 18.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.02.20 18.27 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.02.20 18.27 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 60** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-030 | Date Collected: | 12.31.19 12.39 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.02.20 17.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 17.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.02.20 17.26 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.02.20 17.26 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 61** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-031 Date Collected: 12.31.19 12.43 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **36.1** | 9.94 | mg/kg | 01.02.20 17.30 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 18.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.02.20 18.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 18.47 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.02.20 18.47 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.02.20 18.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 01.02.20 18.47 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 01.02.20 18.47 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 61** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-031 | Date Collected: | 12.31.19 12.43 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.02.20 18.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.02.20 18.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.02.20 18.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.02.20 18.24 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 62** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-032 | Date Collected: | 12.31.19 12.47 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.30 | Basis: | Wet Weight |
| Seq Number: | 3112261 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.6** | 9.98 | mg/kg | 01.02.20 17.49 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.02.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3112264 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.02.20 18.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.02.20 18.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.02.20 18.47 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.02.20 18.47 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.02.20 18.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 75 | % | 70-135 | 01.02.20 18.47 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 01.02.20 18.47 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 62** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-032 | Date Collected: | 12.31.19 12.47 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.02.20 18.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.02.20 18.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.02.20 18.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.02.20 18.43 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 63** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-033 | Date Collected: | 12.31.19 12.50 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.30 | Basis: | Wet Weight |
| Seq Number: | 3112261 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **309** | 9.94 | mg/kg | 01.02.20 17.55 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.02.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3112264 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **97.1** | 50.0 | mg/kg | 01.02.20 19.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| **Total GRO-DRO** | PHC628 | **97.1** | 50.0 | mg/kg | 01.02.20 19.07 | | 1 |
| **Total TPH** | PHC635 | **97.1** | 50.0 | mg/kg | 01.02.20 19.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 01.02.20 19.07 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 01.02.20 19.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 63** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-033 | Date Collected: | 12.31.19 12.50 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.02.20 19.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.02.20 19.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 01.02.20 19.02 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.02.20 19.02 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 64** Matrix: Soil Date Received:01.02.20 09.03

Lab Sample Id: 647777-034 Date Collected: 12.31.19 12.53 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.02.20 12.30 Basis: Wet Weight

Seq Number: 3112261

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **82.1** | 9.96 | mg/kg | 01.02.20 18.14 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.02.20 13.00 Basis: Wet Weight

Seq Number: 3112264

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.02.20 19.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 75 | % | 70-135 | 01.02.20 19.07 | |
| o-Terphenyl | 84-15-1 | 75 | % | 70-135 | 01.02.20 19.07 | |

# Certificate of Analytical Results 647777

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 64** | Matrix: | Soil | Date Received: | 01.02.20 09.03 |
| Lab Sample Id: | 647777-034 | Date Collected: | 12.31.19 12.53 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.02.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3112253 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.02.20 19.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.02.20 19.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.02.20 19.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.02.20 19.21 | |

# 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

# QC Summary 647777



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112260 — Matrix: Solid — Date Prep: 01.02.20
MB Sample Id: 7693607-1-BLK — LCS Sample Id: 7693607-1-BKS — LCSD Sample Id: 7693607-1-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 | 263 | 105 | 263 | 105 | 90-110 | 0 | 20 | mg/kg | 01.02.20 12:33 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112261 — Matrix: Solid — Date Prep: 01.02.20
MB Sample Id: 7693608-1-BLK — LCS Sample Id: 7693608-1-BKS — LCSD Sample Id: 7693608-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 262 | 105 | 266 | 106 | 90-110 | 2 | 20 | mg/kg | 01.02.20 15:56 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112260 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-001 — MS Sample Id: 647777-001 S — MSD Sample Id: 647777-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14.2 | 201 | 225 | 105 | 225 | 105 | 90-110 | 0 | 20 | mg/kg | 01.02.20 12:50 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112260 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-011 — MS Sample Id: 647777-011 S — MSD Sample Id: 647777-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 110 | 199 | 325 | 108 | 327 | 107 | 90-110 | 1 | 20 | mg/kg | 01.02.20 14:11 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112261 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-021 — MS Sample Id: 647777-021 S — MSD Sample Id: 647777-021 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 | 218 | 109 | 221 | 110 | 90-110 | 1 | 20 | mg/kg | 01.02.20 16:14 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 647777



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112261 Matrix: Soil Date Prep: 01.02.20
Parent Sample Id: 647777-031 MS Sample Id: 647777-031 S MSD Sample Id: 647777-031 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 36.1 | 202 | 253 | 107 | 251 | 107 | 90-110 | 1 | 20 | mg/kg | 01.02.20 17:37 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112247 Matrix: Solid Date Prep: 01.02.20
MB Sample Id: 7693613-1-BLK LCS Sample Id: 7693613-1-BKS LCSD Sample Id: 7693613-1-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 | 1080 | 108 | 70-135 | 1 | 35 | mg/kg | 01.02.20 11:45 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1010 | 101 | 1070 | 107 | 70-135 | 6 | 35 | mg/kg | 01.02.20 11:45 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 90 | | 104 | | 109 | | 70-135 | % | 01.02.20 11:45 |
| o-Terphenyl | 91 | | 99 | | 105 | | 70-135 | % | 01.02.20 11:45 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112264 Matrix: Solid Date Prep: 01.02.20
MB Sample Id: 7693615-1-BLK LCS Sample Id: 7693615-1-BKS LCSD Sample Id: 7693615-1-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 | 1130 | 113 | 1110 | 111 | 70-135 | 2 | 35 | mg/kg | 01.02.20 16:06 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1270 | 127 | 1190 | 119 | 70-135 | 7 | 35 | mg/kg | 01.02.20 16:06 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 108 | | 123 | | 122 | | 70-135 | % | 01.02.20 16:06 |
| o-Terphenyl | 111 | | 123 | | 115 | | 70-135 | % | 01.02.20 16:06 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112247 Matrix: Solid Date Prep: 01.02.20
MB Sample Id: 7693613-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.02.20 11:24 | |

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

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

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

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

# QC Summary 647777



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112264 — Matrix: Solid — Date Prep: 01.02.20
MB Sample Id: 7693615-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.02.20 16:06 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112247 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-001 — MS Sample Id: 647777-001 S — MSD Sample Id: 647777-001 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 | 1070 | 107 | 1190 | 119 | 70-135 | 11 | 35 | mg/kg | 01.02.20 12:05 | |
| Diesel Range Organics (DRO) | <50.2 | 1000 | 1050 | 105 | 1140 | 114 | 70-135 | 8 | 35 | mg/kg | 01.02.20 12:05 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 93 | | 101 | | 70-135 | % | 01.02.20 12:05 |
| o-Terphenyl | 88 | | 91 | | 70-135 | % | 01.02.20 12:05 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112264 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-021 — MS Sample Id: 647777-021 S — MSD Sample Id: 647777-021 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) | <50.0 | 1000 | 1310 | 131 | 1250 | 125 | 70-135 | 5 | 35 | mg/kg | 01.02.20 16:47 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1290 | 129 | 1260 | 126 | 70-135 | 2 | 35 | mg/kg | 01.02.20 16:47 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 133 | | 128 | | 70-135 | % | 01.02.20 16:47 |
| o-Terphenyl | 123 | | 120 | | 70-135 | % | 01.02.20 16:47 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 647777



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112250 — Matrix: Solid — Date Prep: 01.02.20
MB Sample Id: 7693604-1-BLK — LCS Sample Id: 7693604-1-BKS — LCSD Sample Id: 7693604-1-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 | 0.0932 | 93 | 0.0859 | 86 | 70-130 | 8 | 35 | mg/kg | 01.02.20 12:54 | |
| Toluene | <0.00200 | 0.100 | 0.0936 | 94 | 0.0859 | 86 | 70-130 | 9 | 35 | mg/kg | 01.02.20 12:54 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0912 | 91 | 0.0837 | 84 | 71-129 | 9 | 35 | mg/kg | 01.02.20 12:54 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.189 | 95 | 0.173 | 87 | 70-135 | 9 | 35 | mg/kg | 01.02.20 12:54 | |
| o-Xylene | <0.00200 | 0.100 | 0.0928 | 93 | 0.0851 | 85 | 71-133 | 9 | 35 | mg/kg | 01.02.20 12:54 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 96 | | 100 | | 98 | | 70-130 | % | 01.02.20 12:54 |
| 4-Bromofluorobenzene | 103 | | 102 | | 96 | | 70-130 | % | 01.02.20 12:54 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112253 — Matrix: Solid — Date Prep: 01.02.20
MB Sample Id: 7693606-1-BLK — LCS Sample Id: 7693606-1-BKS — LCSD Sample Id: 7693606-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.100 | 100 | 0.0901 | 90 | 70-130 | 10 | 35 | mg/kg | 01.02.20 12:52 | |
| Toluene | <0.00200 | 0.100 | 0.0998 | 100 | 0.0892 | 89 | 70-130 | 11 | 35 | mg/kg | 01.02.20 12:52 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.102 | 102 | 0.0907 | 91 | 71-129 | 12 | 35 | mg/kg | 01.02.20 12:52 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.206 | 103 | 0.183 | 92 | 70-135 | 12 | 35 | mg/kg | 01.02.20 12:52 | |
| o-Xylene | <0.00200 | 0.100 | 0.102 | 102 | 0.0909 | 91 | 71-133 | 12 | 35 | mg/kg | 01.02.20 12:52 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 100 | | 99 | | 70-130 | % | 01.02.20 12:52 |
| 4-Bromofluorobenzene | 99 | | 105 | | 99 | | 70-130 | % | 01.02.20 12:52 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112250 — Matrix: Soil — Date Prep: 01.02.20
Parent Sample Id: 647777-001 — MS Sample Id: 647777-001 S — MSD Sample Id: 647777-001 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 | 0.0991 | 100 | 0.104 | 105 | 70-130 | 5 | 35 | mg/kg | 01.02.20 13:29 | |
| Toluene | <0.00199 | 0.0994 | 0.0980 | 99 | 0.103 | 104 | 70-130 | 5 | 35 | mg/kg | 01.02.20 13:29 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0942 | 95 | 0.0985 | 99 | 71-129 | 4 | 35 | mg/kg | 01.02.20 13:29 | |
| m,p-Xylenes | <0.000749 | 0.199 | 0.192 | 96 | 0.199 | 101 | 70-135 | 4 | 35 | mg/kg | 01.02.20 13:29 | |
| o-Xylene | <0.00199 | 0.0994 | 0.0952 | 96 | 0.0987 | 99 | 71-133 | 4 | 35 | mg/kg | 01.02.20 13:29 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 99 | | 70-130 | % | 01.02.20 13:29 |
| 4-Bromofluorobenzene | 98 | | 98 | | 70-130 | % | 01.02.20 13:29 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 647777



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3112253 Matrix: Soil Date Prep: 01.02.20

Parent Sample Id: 647777-021 MS Sample Id: 647777-021 S MSD Sample Id: 647777-021 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 | 0.125 | 125 | 0.115 | 115 | 70-130 | 8 | 35 | mg/kg | 01.02.20 13:30 | |
| Toluene | <0.00200 | 0.0998 | 0.121 | 121 | 0.112 | 112 | 70-130 | 8 | 35 | mg/kg | 01.02.20 13:30 | |
| Ethylbenzene | 0.000763 | 0.0998 | 0.120 | 119 | 0.113 | 113 | 71-129 | 6 | 35 | mg/kg | 01.02.20 13:30 | |
| m,p-Xylenes | <0.00399 | 0.200 | 0.239 | 120 | 0.224 | 113 | 70-135 | 6 | 35 | mg/kg | 01.02.20 13:30 | |
| o-Xylene | <0.00200 | 0.0998 | 0.119 | 119 | 0.111 | 111 | 71-133 | 7 | 35 | mg/kg | 01.02.20 13:30 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 103 | | 70-130 | % | 01.02.20 13:30 |
| 4-Bromofluorobenzene | 111 | | 107 | | 70-130 | % | 01.02.20 13:30 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 647777

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



| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291208 | Routine ☐ | |
| P.O. Number: | WM 012 Lea | Rush: 48hr | |
| Sampler's Name: | William Mather | Due Date: 1/6/20 | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.4 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 34 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS31 | S | 12/30/19 | 14:06 | 1.5' | 1 | X | X | X |
| FS32 | | | 14:09 | | 1 | X | X | X |
| FS33 | | | 14:13 | | 1 | X | X | X |
| FS34 | | | 14:18 | | 1 | X | X | X |
| FS35 | | | 14:24 | | 1 | X | X | X |
| FS36 | | | 14:27 | | 1 | X | X | X |
| FS37 | | | 14:36 | | 1 | X | X | X |
| FS38 | | | 14:41 | | 1 | X | X | X |
| FS39 | | | 14:41 | | 1 | X | X | X |
| FS40 | | | 14:51 | | 1 | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

WM discrete 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 1/2/20 @ 0800 | 2 | | 1/2/20 9:03 |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
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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: 647777

Page 2 of 4

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 48hr | |
| Sampler's Name: | William Mather | Due Date: 1/6/20 | |

| 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: | | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS41 | S | 12/3/19 | 9:12 | 1.5' | 1 | X | X | X |
| FS42 | | | 9:17 | | | X | X | X |
| FS43 | | | 9:20 | | | X | X | X |
| FS44 | | | 9:25 | | | X | X | X |
| FS45 | | | 9:29 | | | X | X | X |
| FS46 | | | 9:35 | | | X | X | X |
| FS47 | | | 9:40 | | | X | X | X |
| FS48 | | | 10:08 | | | X | X | X |
| FS49 | | | 10:10 | | | X | X | X |
| FS50 | | | 10:14 | | | X | X | X |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 12/2/20 @ 0940 | 2 | | 12/20 9:03 |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

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

Work Order No: 647777



| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 48hr | |
| Sampler's Name: | William Mather | Due Date: 1/6/20 | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS51 | S | 12/3/19 | 10:19 | 1.5' | 1 | X | X | X |
| FS52 | | | 10:22 | | | X | X | X |
| FS53 | | | 10:26 | | | X | X | X |
| FS54 | | | 11:08 | .5' | | X | X | X |
| FS55 | | | 11:13 | .5' | | X | X | X |
| FS56 | | | 11:18 | 1.5' | | X | X | X |
| FS57 | | | 11:23 | | | X | X | X |
| FS58 | | | 11:29 | | | X | X | X |
| FS59 | | | 11:33 | | | X | X | X |
| FS60 | | | 12:39 | | | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 12/12/20 @0840 | 2 | | 1/2/20 9:03 |
| | | | 4 | | |
| | | | 6 | | |

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# Chain of Custody

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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: 647777

Page 4 of 4

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 48hr | |
| Sampler's Name: | William Mather | Due Date: 12/6/20 | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temperature (°C): | | Temp Blank: Yes No | Wet Ice: Yes No | |
| Received Intact: | Yes No | Thermometer ID | 2nd | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS01 | S | 12/3/20 | 12:43 | 1.5' | 1 | X | X | X |
| FS02 | ↓ | ↓ | 12:47 | ↓ | ↓ | X | X | X |
| FS03 | ↓ | ↓ | 12:50 | ↓ | ↓ | X | X | X |
| FS04 | ↓ | ↓ | 12:53 | ↓ | ↓ | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

FS01-04 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 12/2/20 0840 | 2 | | 12/2/20 9:03 |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01/02/2020 09:03:00 AM

**Work Order #:** 647777

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01/02/2020

**Checklist reviewed by:** Holly Taylor Date: 01/03/2020

# Analytical Report 648593

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**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): **648593**
**EMSU CTB**
Project Address: Lea

**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) 648593. 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. 648593 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS65 | S | 01-08-20 14:15 | 4 ft | 648593-001 |
| FS66 | S | 01-08-20 14:18 | 4 ft | 648593-002 |
| FS67 | S | 01-08-20 14:21 | 4 ft | 648593-003 |
| FS68 | S | 01-08-20 14:25 | 4 ft | 648593-004 |
| FS69 | S | 01-08-20 14:28 | 4 ft | 648593-005 |
| FS70 | S | 01-08-20 14:31 | 4 ft | 648593-006 |
| FS71 | S | 01-08-20 14:36 | 4 ft | 648593-007 |
| FS72 | S | 01-08-20 14:40 | 4 ft | 648593-008 |
| FS73 | S | 01-08-20 14:43 | 4 ft | 648593-009 |
| FS74 | S | 01-08-20 14:47 | 4 ft | 648593-010 |
| FS75 | S | 01-08-20 14:49 | 4 ft | 648593-011 |
| FS76 | S | 01-08-20 14:54 | 4 ft | 648593-012 |
| FS77 | S | 01-08-20 14:58 | 3 ft | 648593-013 |
| FS78 | S | 01-08-20 15:05 | 4 ft | 648593-014 |
| FS79 | S | 01-08-20 15:08 | 4 ft | 648593-015 |
| FS80 | S | 01-08-20 15:10 | 3 ft | 648593-016 |
| FS81 | S | 01-08-20 15:12 | 3 ft | 648593-017 |
| SW10 | S | 01-09-20 09:37 | 1 - 4 ft | 648593-018 |
| SW11 | S | 01-09-20 09:41 | 1 - 4 ft | 648593-019 |
| SW12 | S | 01-09-20 09:45 | 1 - 4 ft | 648593-020 |
| SW13 | S | 01-09-20 10:24 | 1 - 4 ft | 648593-021 |
| SW14 | S | 01-09-20 10:27 | 1 - 4 ft | 648593-022 |
| SW15 | S | 01-09-20 10:31 | 1 - 4 ft | 648593-023 |
| SW16 | S | 01-09-20 10:34 | 1 - 3 ft | 648593-024 |
| SW17 | S | 01-09-20 10:38 | 1 - 3 ft | 648593-025 |
| SW18 | S | 01-09-20 10:42 | 1 - 3 ft | 648593-026 |
| SW19 | S | 01-09-20 10:45 | 1 - 4 ft | 648593-027 |
| SW20 | S | 01-09-20 10:50 | 1 - 3 ft | 648593-028 |
| SW21 | S | 01-09-20 10:56 | 1 - 4 ft | 648593-029 |
| SW22 | S | 01-09-20 11:00 | 1 - 4 ft | 648593-030 |
| SW23 | S | 01-09-20 11:11 | 1 - 4 ft | 648593-031 |
| SW24 | S | 01-09-20 11:15 | 1 - 4 ft | 648593-032 |
| SW25 | S | 01-09-20 11:21 | 1 - 4 ft | 648593-033 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *648593*

Report Date: *14-JAN-20*
Date Received: *01/09/2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3112858 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7694053-1-BLK.

Batch: LBA-3112886 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 648593-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 648593-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for m,p-Xylenes , Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112936 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648593-001 | | 648593-002 | | 648593-003 | | 648593-004 | | 648593-005 | | 648593-006 | |
| | ***Field Id:*** | FS65 | | FS66 | | FS67 | | FS68 | | FS69 | | FS70 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-08-20 14:15 | | Jan-08-20 14:18 | | Jan-08-20 14:21 | | Jan-08-20 14:25 | | Jan-08-20 14:28 | | Jan-08-20 14:31 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | |
| | ***Analyzed:*** | Jan-10-20 04:50 | | Jan-10-20 05:08 | | Jan-10-20 05:25 | | Jan-10-20 05:42 | | Jan-10-20 06:00 | | Jan-10-20 06:17 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Toluene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00404 | 0.00404 | <0.00399 | 0.00399 | <0.00400 | 0.00400 | <0.0385 | 0.0385 | <0.00404 | 0.00404 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.0192 | 0.0192 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | |
| | ***Analyzed:*** | Jan-10-20 08:30 | | Jan-10-20 08:46 | | Jan-10-20 08:52 | | Jan-10-20 08:57 | | Jan-10-20 09:02 | | Jan-10-20 09:19 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | <9.94 | 9.94 | 11.7 | 9.98 | <9.88 | 9.88 | <9.92 | 9.92 | 12.0 | 10.0 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | |
| | ***Analyzed:*** | Jan-10-20 05:33 | | Jan-10-20 15:05 | | Jan-10-20 06:12 | | Jan-10-20 15:25 | | Jan-11-20 10:02 | | Jan-10-20 06:32 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | 1470 | 49.9 | 53.1 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | 323 | 50.0 | 65.7 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | 158 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total GRO-DRO | | 1470 | 49.9 | 53.1 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | 323 | 50.0 | 65.7 | 50.0 |
| Total TPH | | 1630 | 49.9 | 53.1 | 50.0 | <49.8 | 49.8 | <50.2 | 50.2 | 323 | 50.0 | 65.7 | 50.0 |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648593-007 | | 648593-008 | | 648593-009 | | 648593-010 | | 648593-011 | | 648593-012 | |
| | ***Field Id:*** | FS71 | | FS72 | | FS73 | | FS74 | | FS75 | | FS76 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-08-20 14:36 | | Jan-08-20 14:40 | | Jan-08-20 14:43 | | Jan-08-20 14:47 | | Jan-08-20 14:49 | | Jan-08-20 14:54 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | |
| | ***Analyzed:*** | Jan-10-20 06:35 | | Jan-10-20 06:52 | | Jan-10-20 07:10 | | Jan-10-20 07:27 | | Jan-10-20 08:36 | | Jan-10-20 08:54 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Toluene | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | 0.00295 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00404 | 0.00404 | <0.00397 | 0.00397 | <0.00401 | 0.00401 | <0.00396 | 0.00396 | <0.00404 | 0.00404 | <0.00401 | 0.00401 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00198 | 0.00198 | 0.00295 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | |
| | ***Analyzed:*** | Jan-10-20 09:24 | | Jan-10-20 09:29 | | Jan-10-20 09:35 | | Jan-10-20 09:40 | | Jan-10-20 09:46 | | Jan-10-20 10:02 | |
| | ***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 | <10.1 | 10.1 | <10.1 | 10.1 | <9.80 | 9.80 | 13.6 | 10.0 | 12.1 | 10.1 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | | Jan-09-20 18:30 | |
| | ***Analyzed:*** | Jan-11-20 10:22 | | Jan-10-20 06:52 | | Jan-11-20 10:41 | | Jan-10-20 07:12 | | Jan-11-20 11:01 | | Jan-10-20 07:31 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.2 | 50.2 | <49.9 | 49.9 | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | 642 | 50.2 | 88.7 | 49.9 | 181 | 50.2 | <50.3 | 50.3 | 671 | 50.0 | 929 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | 75.1 | 50.2 | <49.9 | 49.9 | <50.2 | 50.2 | <50.3 | 50.3 | 76.6 | 50.0 | 90.3 | 50.3 |
| Total GRO-DRO | | 642 | 50.2 | 88.7 | 49.9 | 181 | 50.2 | <50.3 | 50.3 | 671 | 50.0 | 929 | 50.3 |
| Total TPH | | 717 | 50.2 | 88.7 | 49.9 | 181 | 50.2 | <50.3 | 50.3 | 748 | 50.0 | 1020 | 50.3 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648593-013 | | 648593-014 | | 648593-015 | | 648593-016 | | 648593-017 | | 648593-018 | |
| | ***Field Id:*** | FS77 | | FS78 | | FS79 | | FS80 | | FS81 | | SW10 | |
| | ***Depth:*** | 3- ft | | 4- ft | | 4- ft | | 3- ft | | 3- ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-08-20 14:58 | | Jan-08-20 15:05 | | Jan-08-20 15:08 | | Jan-08-20 15:10 | | Jan-08-20 15:12 | | Jan-09-20 09:37 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:30 | |
| | ***Analyzed:*** | Jan-10-20 09:11 | | Jan-10-20 09:28 | | Jan-10-20 09:46 | | Jan-10-20 10:03 | | Jan-10-20 10:21 | | Jan-10-20 10:38 | |
| | ***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 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| Toluene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00403 | 0.00403 | <0.00403 | 0.00403 | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00404 | 0.00404 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 07:00 | |
| | ***Analyzed:*** | Jan-10-20 10:07 | | Jan-10-20 10:23 | | Jan-10-20 10:29 | | Jan-10-20 10:34 | | Jan-10-20 10:39 | | Jan-10-20 10:45 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | 10.5 | 9.98 | 22.2 | 9.94 | 16.1 | 9.98 | 14.5 | 9.96 | <9.98 | 9.98 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | |
| | ***Analyzed:*** | Jan-13-20 12:53 | | Jan-13-20 13:52 | | Jan-13-20 14:10 | | Jan-13-20 14:29 | | Jan-13-20 14:48 | | Jan-13-20 15:07 | |
| | ***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 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.0 | 50.0 | 5350 | 49.9 | <50.0 | 50.0 | 95.0 | 50.0 | 57.5 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.0 | 50.0 | 625 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total GRO-DRO | | <50.0 | 50.0 | <50.0 | 50.0 | 5350 | 49.9 | <50.0 | 50.0 | 95.0 | 50.0 | 57.5 | 50.0 |
| Total TPH | | <50.0 | 50.0 | <50.0 | 50.0 | 5980 | 49.9 | <50.0 | 50.0 | 95.0 | 50.0 | 57.5 | 50.0 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 648593-019 | | 648593-020 | | 648593-021 | | 648593-022 | | 648593-023 | | 648593-024 | |
| | *Field Id:* | SW11 | | SW12 | | SW13 | | SW14 | | SW15 | | SW16 | |
| | *Depth:* | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-3 ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Jan-09-20 09:41 | | Jan-09-20 09:45 | | Jan-09-20 10:24 | | Jan-09-20 10:27 | | Jan-09-20 10:31 | | Jan-09-20 10:34 | |
| **BTEX by EPA 8021B** | *Extracted:* | Jan-09-20 17:30 | | Jan-09-20 17:30 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | |
| | *Analyzed:* | Jan-10-20 10:55 | | Jan-10-20 11:13 | | Jan-10-20 14:39 | | Jan-10-20 10:05 | | Jan-10-20 10:24 | | Jan-10-20 10:43 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Toluene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00403 | 0.00403 | <0.00401 | 0.00401 | <0.0402 | 0.0402 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00404 | 0.00404 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.0201 | 0.0201 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| **Chloride by EPA 300** | *Extracted:* | Jan-10-20 07:00 | | Jan-10-20 07:00 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | |
| | *Analyzed:* | Jan-10-20 10:50 | | Jan-10-20 10:55 | | Jan-10-20 11:28 | | Jan-10-20 11:44 | | Jan-10-20 11:49 | | Jan-10-20 11:55 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | <9.92 | 9.92 | <10.0 | 10.0 | <9.98 | 9.98 | 10.4 | 9.94 | 10.2 | 10.1 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | *Extracted:* | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | |
| | *Analyzed:* | Jan-13-20 15:26 | | Jan-13-20 15:44 | | Jan-13-20 16:03 | | Jan-13-20 16:22 | | Jan-13-20 17:00 | | Jan-13-20 17:19 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | 117 | 49.9 | <50.0 | 50.0 | 372 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | 491 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | 56.8 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | 88.9 | 49.9 |
| Total GRO-DRO | | 117 | 49.9 | <50.0 | 50.0 | 372 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | 491 | 49.9 |
| Total TPH | | 117 | 49.9 | <50.0 | 50.0 | 429 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | 580 | 49.9 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648593-025 | | 648593-026 | | 648593-027 | | 648593-028 | | 648593-029 | | 648593-030 | |
| | ***Field Id:*** | SW17 | | SW18 | | SW19 | | SW20 | | SW21 | | SW22 | |
| | ***Depth:*** | 1-3 ft | | 1-3 ft | | 1-4 ft | | 1-3 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-09-20 10:38 | | Jan-09-20 10:42 | | Jan-09-20 10:45 | | Jan-09-20 10:50 | | Jan-09-20 10:56 | | Jan-09-20 11:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | |
| | ***Analyzed:*** | Jan-10-20 11:02 | | Jan-10-20 11:21 | | Jan-10-20 11:40 | | Jan-10-20 12:00 | | Jan-10-20 12:19 | | Jan-10-20 12:38 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.0196 | 0.0196 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| Toluene | | <0.0196 | 0.0196 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| Ethylbenzene | | <0.0196 | 0.0196 | 0.00230 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| m,p-Xylenes | | <0.0392 | 0.0392 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00401 | 0.00401 | <0.00403 | 0.00403 | <0.0392 | 0.0392 |
| o-Xylene | | <0.0196 | 0.0196 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| Total Xylenes | | <0.0196 | 0.0196 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| Total BTEX | | <0.0196 | 0.0196 | 0.00230 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.0196 | 0.0196 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | |
| | ***Analyzed:*** | Jan-10-20 12:00 | | Jan-10-20 12:16 | | Jan-10-20 12:21 | | Jan-10-20 12:27 | | Jan-10-20 12:33 | | Jan-10-20 12:39 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 15.7 | 10.0 | <9.94 | 9.94 | <9.98 | 9.98 | <10.1 | 10.1 | <10.0 | 10.0 | <10.1 | 10.1 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 10:00 | |
| | ***Analyzed:*** | Jan-13-20 17:38 | | Jan-13-20 17:57 | | Jan-13-20 18:15 | | Jan-13-20 18:34 | | Jan-13-20 18:53 | | Jan-13-20 19:11 | |
| | ***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 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | 190 | 50.0 | 1420 | 49.9 | <49.8 | 49.8 | 64.4 | 50.0 | 50.2 | 49.9 | 223 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | 254 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 |
| Total GRO-DRO | | 190 | 50.0 | 1420 | 49.9 | <49.8 | 49.8 | 64.4 | 50.0 | 50.2 | 49.9 | 223 | 50.0 |
| Total TPH | | 190 | 50.0 | 1670 | 49.9 | <49.8 | 49.8 | 64.4 | 50.0 | 50.2 | 49.9 | 223 | 50.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648593

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** Lea

**Date Received in Lab:** Thu Jan-09-20 04:05 pm
**Report Date:** 14-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648593-031 | | 648593-032 | | 648593-033 | | | |
| | ***Field Id:*** | SW23 | | SW24 | | SW25 | | | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | | |
| | ***Sampled:*** | Jan-09-20 11:11 | | Jan-09-20 11:15 | | Jan-09-20 11:21 | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-09-20 17:45 | | Jan-09-20 17:45 | | Jan-09-20 17:45 | | | |
| | ***Analyzed:*** | Jan-10-20 13:42 | | Jan-10-20 14:01 | | Jan-10-20 14:20 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00397 | 0.00397 | <0.0400 | 0.0400 | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-10-20 10:08 | | Jan-10-20 10:08 | | Jan-10-20 10:08 | | | |
| | ***Analyzed:*** | Jan-10-20 12:45 | | Jan-10-20 13:02 | | Jan-10-20 13:08 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Chloride | | <10.1 | 10.1 | <9.92 | 9.92 | <9.98 | 9.98 | | |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Jan-13-20 10:00 | | Jan-13-20 10:00 | | Jan-13-20 12:00 | | | |
| | ***Analyzed:*** | Jan-13-20 19:30 | | Jan-13-20 19:48 | | Jan-14-20 03:20 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | 56.4 | 50.0 | | |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | 56.4 | 50.0 | | |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | 56.4 | 50.0 | | |

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Jessica Kramer
Project Assistant

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS65** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-001 | Date Collected: | 01.08.20 14.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 08.30 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.10.20 05.33 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1470** | 49.9 | mg/kg | 01.10.20 05.33 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **158** | 49.9 | mg/kg | 01.10.20 05.33 | | 1 |
| **Total GRO-DRO** | PHC628 | **1470** | 49.9 | mg/kg | 01.10.20 05.33 | | 1 |
| **Total TPH** | PHC635 | **1630** | 49.9 | mg/kg | 01.10.20 05.33 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 01.10.20 05.33 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 01.10.20 05.33 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS65** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-001 | Date Collected: | 01.08.20 14.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 04.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 04.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.10.20 04.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.10.20 04.50 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS66** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-002 | Date Collected: | 01.08.20 14.18 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 01.10.20 08.46 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.10.20 15.05 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **53.1** | 50.0 | mg/kg | 01.10.20 15.05 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.10.20 15.05 | U | 1 |
| **Total GRO-DRO** | PHC628 | **53.1** | 50.0 | mg/kg | 01.10.20 15.05 | | 1 |
| **Total TPH** | PHC635 | **53.1** | 50.0 | mg/kg | 01.10.20 15.05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 01.10.20 15.05 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.10.20 15.05 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS66** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-002 | Date Collected: | 01.08.20 14.18 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.10.20 05.08 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 05.08 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.10.20 05.08 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS67** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-003 | Date Collected: | 01.08.20 14.21 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.7** | 9.98 | mg/kg | 01.10.20 08.52 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.10.20 06.12 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.10.20 06.12 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.10.20 06.12 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.10.20 06.12 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.10.20 06.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 01.10.20 06.12 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 01.10.20 06.12 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS67** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-003 | Date Collected: | 01.08.20 14.21 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.10.20 05.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 05.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 05.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.10.20 05.25 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS68** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-004 | Date Collected: | 01.08.20 14.25 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 01.10.20 08.57 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.10.20 15.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.10.20 15.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.10.20 15.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.10.20 15.25 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.10.20 15.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 01.10.20 15.25 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 01.10.20 15.25 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS68** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-004 | Date Collected: | 01.08.20 14.25 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |
| Toluene | 108-88-3 | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0385 | 0.0385 | mg/kg | 01.10.20 05.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |
| Total BTEX | | <0.0192 | 0.0192 | mg/kg | 01.10.20 05.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.10.20 05.42 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.10.20 05.42 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS69** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-005 | Date Collected: | 01.08.20 14.28 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.10.20 09.02 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.11.20 10.02 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **323** | 50.0 | mg/kg | 01.11.20 10.02 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.11.20 10.02 | U | 1 |
| **Total GRO-DRO** | PHC628 | **323** | 50.0 | mg/kg | 01.11.20 10.02 | | 1 |
| **Total TPH** | PHC635 | **323** | 50.0 | mg/kg | 01.11.20 10.02 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 01.11.20 10.02 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 01.11.20 10.02 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS69** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-005 | Date Collected: | 01.08.20 14.28 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 06.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.10.20 06.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.10.20 06.00 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS70** Matrix: Soil Date Received:01.09.20 16.05

Lab Sample Id: 648593-006 Date Collected: 01.08.20 14.31 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.10.20 07.00 Basis: Wet Weight

Seq Number: 3112878

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.0** | 10.0 | mg/kg | 01.10.20 09.19 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.09.20 18.30 Basis: Wet Weight

Seq Number: 3112858 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 | 01.10.20 06.32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **65.7** | 50.0 | mg/kg | 01.10.20 06.32 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.10.20 06.32 | U | 1 |
| **Total GRO-DRO** | PHC628 | **65.7** | 50.0 | mg/kg | 01.10.20 06.32 | | 1 |
| **Total TPH** | PHC635 | **65.7** | 50.0 | mg/kg | 01.10.20 06.32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 01.10.20 06.32 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 01.10.20 06.32 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS70** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-006 | Date Collected: | 01.08.20 14.31 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.10.20 06.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.10.20 06.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.10.20 06.17 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.10.20 06.17 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS71** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-007 | Date Collected: | 01.08.20 14.36 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 09.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.11.20 10.22 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **642** | 50.2 | mg/kg | 01.11.20 10.22 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **75.1** | 50.2 | mg/kg | 01.11.20 10.22 | | 1 |
| **Total GRO-DRO** | PHC628 | **642** | 50.2 | mg/kg | 01.11.20 10.22 | | 1 |
| **Total TPH** | PHC635 | **717** | 50.2 | mg/kg | 01.11.20 10.22 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 01.11.20 10.22 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 01.11.20 10.22 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS71** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-007 | Date Collected: | 01.08.20 14.36 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 06.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 06.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 01.10.20 06.35 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.10.20 06.35 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS72** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-008 | Date Collected: | 01.08.20 14.40 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 09.29 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.10.20 06.52 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **88.7** | 49.9 | mg/kg | 01.10.20 06.52 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.10.20 06.52 | U | 1 |
| **Total GRO-DRO** | PHC628 | **88.7** | 49.9 | mg/kg | 01.10.20 06.52 | | 1 |
| **Total TPH** | PHC635 | **88.7** | 49.9 | mg/kg | 01.10.20 06.52 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 01.10.20 06.52 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 01.10.20 06.52 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS72** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-008 | Date Collected: | 01.08.20 14.40 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.10.20 06.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.10.20 06.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.10.20 06.52 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.10.20 06.52 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS73** Matrix: Soil Date Received:01.09.20 16.05

Lab Sample Id: 648593-009 Date Collected: 01.08.20 14.43 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.10.20 07.00 Basis: Wet Weight

Seq Number: 3112878

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 09.35 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.09.20 18.30 Basis: Wet Weight

Seq Number: 3112858 SUB: T104704400-19-19

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.11.20 10.41 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **181** | 50.2 | mg/kg | 01.11.20 10.41 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.11.20 10.41 | U | 1 |
| **Total GRO-DRO** | PHC628 | **181** | 50.2 | mg/kg | 01.11.20 10.41 | | 1 |
| **Total TPH** | PHC635 | **181** | 50.2 | mg/kg | 01.11.20 10.41 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 01.11.20 10.41 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 01.11.20 10.41 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS73** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-009 | Date Collected: | 01.08.20 14.43 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 07.10 | U | 1 |
| **Toluene** | 108-88-3 | **0.00295** | 0.00200 | mg/kg | 01.10.20 07.10 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 07.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.10.20 07.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 07.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 07.10 | U | 1 |
| **Total BTEX** | | **0.00295** | 0.00200 | mg/kg | 01.10.20 07.10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.10.20 07.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 07.10 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS74** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-010 | Date Collected: | 01.08.20 14.47 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.80 | 9.80 | mg/kg | 01.10.20 09.40 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.10.20 07.12 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.10.20 07.12 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.10.20 07.12 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.10.20 07.12 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.10.20 07.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 01.10.20 07.12 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 01.10.20 07.12 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS74** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-010 | Date Collected: | 01.08.20 14.47 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.10.20 07.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.10.20 07.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 01.10.20 07.27 | |
| 1,4-Difluorobenzene | 540-36-3 | 95 | % | 70-130 | 01.10.20 07.27 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS75** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-011 | Date Collected: | 01.08.20 14.49 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.6** | 10.0 | mg/kg | 01.10.20 09.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | 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 | 01.11.20 11.01 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **671** | 50.0 | mg/kg | 01.11.20 11.01 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **76.6** | 50.0 | mg/kg | 01.11.20 11.01 | | 1 |
| **Total GRO-DRO** | PHC628 | **671** | 50.0 | mg/kg | 01.11.20 11.01 | | 1 |
| **Total TPH** | PHC635 | **748** | 50.0 | mg/kg | 01.11.20 11.01 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 01.11.20 11.01 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 01.11.20 11.01 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS75** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-011 | Date Collected: | 01.08.20 14.49 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 08.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 08.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.10.20 08.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 01.10.20 08.36 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS76** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-012 | Date Collected: | 01.08.20 14.54 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.1** | 10.1 | mg/kg | 01.10.20 10.02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.09.20 18.30 | Basis: | Wet Weight |
| Seq Number: | 3112858 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.10.20 07.31 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **929** | 50.3 | mg/kg | 01.10.20 07.31 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **90.3** | 50.3 | mg/kg | 01.10.20 07.31 | | 1 |
| **Total GRO-DRO** | PHC628 | **929** | 50.3 | mg/kg | 01.10.20 07.31 | | 1 |
| **Total TPH** | PHC635 | **1020** | 50.3 | mg/kg | 01.10.20 07.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 01.10.20 07.31 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 01.10.20 07.31 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS76** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-012 | Date Collected: | 01.08.20 14.54 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.10.20 08.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 08.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.10.20 08.54 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.10.20 08.54 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS77** Matrix: Soil Date Received:01.09.20 16.05

Lab Sample Id: 648593-013 Date Collected: 01.08.20 14.58 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.10.20 07.00 Basis: Wet Weight

Seq Number: 3112878

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.10.20 10.07 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.13.20 10.00 Basis: Wet Weight

Seq Number: 3113131 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 | 01.13.20 12.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 12.53 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 12.53 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 12.53 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 12.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 01.13.20 12.53 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 01.13.20 12.53 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS77** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-013 | Date Collected: | 01.08.20 14.58 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.10.20 09.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.10.20 09.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.10.20 09.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.10.20 09.11 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS78** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-014 | Date Collected: | 01.08.20 15.05 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.5** | 9.98 | mg/kg | 01.10.20 10.23 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 13.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 13.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 13.52 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 13.52 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 13.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 01.13.20 13.52 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 01.13.20 13.52 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS78** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-014 | Date Collected: | 01.08.20 15.05 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.10.20 09.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.10.20 09.28 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.10.20 09.28 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS79** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-015 | Date Collected: | 01.08.20 15.08 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.2** | 9.94 | mg/kg | 01.10.20 10.29 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 14.10 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **5350** | 49.9 | mg/kg | 01.13.20 14.10 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **625** | 49.9 | mg/kg | 01.13.20 14.10 | | 1 |
| **Total GRO-DRO** | PHC628 | **5350** | 49.9 | mg/kg | 01.13.20 14.10 | | 1 |
| **Total TPH** | PHC635 | **5980** | 49.9 | mg/kg | 01.13.20 14.10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 01.13.20 14.10 | |
| o-Terphenyl | 84-15-1 | 124 | % | 70-135 | 01.13.20 14.10 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS79** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-015 | Date Collected: | 01.08.20 15.08 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.10.20 09.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 09.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.10.20 09.46 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 09.46 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS80** Matrix: Soil Date Received:01.09.20 16.05
Lab Sample Id: 648593-016 Date Collected: 01.08.20 15.10 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.10.20 07.00 Basis: Wet Weight
Seq Number: 3112878

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.1** | 9.98 | mg/kg | 01.10.20 10.34 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 01.13.20 10.00 Basis: Wet Weight
Seq Number: 3113131 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 | 01.13.20 14.29 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 14.29 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 14.29 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 14.29 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 14.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 01.13.20 14.29 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 01.13.20 14.29 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS80** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-016 | Date Collected: | 01.08.20 15.10 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.10.20 10.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 01.10.20 10.03 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 10.03 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS81** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-017 | Date Collected: | 01.08.20 15.12 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.5** | 9.96 | mg/kg | 01.10.20 10.39 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 14.48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **95.0** | 50.0 | mg/kg | 01.13.20 14.48 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 14.48 | U | 1 |
| **Total GRO-DRO** | PHC628 | **95.0** | 50.0 | mg/kg | 01.13.20 14.48 | | 1 |
| **Total TPH** | PHC635 | **95.0** | 50.0 | mg/kg | 01.13.20 14.48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 01.13.20 14.48 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 01.13.20 14.48 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS81** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-017 | Date Collected: | 01.08.20 15.12 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.10.20 10.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.10.20 10.21 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 10.21 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW10** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-018 | Date Collected: | 01.09.20 09.37 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 10.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 15.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **57.5** | 50.0 | mg/kg | 01.13.20 15.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 15.07 | U | 1 |
| **Total GRO-DRO** | PHC628 | **57.5** | 50.0 | mg/kg | 01.13.20 15.07 | | 1 |
| **Total TPH** | PHC635 | **57.5** | 50.0 | mg/kg | 01.13.20 15.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 01.13.20 15.07 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 01.13.20 15.07 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW10** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-018 | Date Collected: | 01.09.20 09.37 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 10.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.10.20 10.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 01.10.20 10.38 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW11** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-019 | Date Collected: | 01.09.20 09.41 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 10.50 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 15.26 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **117** | 49.9 | mg/kg | 01.13.20 15.26 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.13.20 15.26 | U | 1 |
| **Total GRO-DRO** | PHC628 | **117** | 49.9 | mg/kg | 01.13.20 15.26 | | 1 |
| **Total TPH** | PHC635 | **117** | 49.9 | mg/kg | 01.13.20 15.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 01.13.20 15.26 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 01.13.20 15.26 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW11** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-019 | Date Collected: | 01.09.20 09.41 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.10.20 10.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.10.20 10.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.10.20 10.55 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW12** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-020 | Date Collected: | 01.09.20 09.45 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3112878 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.10.20 10.55 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 15.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 15.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 15.44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 15.44 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 15.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 15.44 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.13.20 15.44 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW12** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-020 | Date Collected: | 01.09.20 09.45 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3112886 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.10.20 11.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.10.20 11.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.10.20 11.13 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW13** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-021 | Date Collected: | 01.09.20 10.24 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.10.20 11.28 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 16.03 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **372** | 49.9 | mg/kg | 01.13.20 16.03 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **56.8** | 49.9 | mg/kg | 01.13.20 16.03 | | 1 |
| **Total GRO-DRO** | PHC628 | **372** | 49.9 | mg/kg | 01.13.20 16.03 | | 1 |
| **Total TPH** | PHC635 | **429** | 49.9 | mg/kg | 01.13.20 16.03 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 01.13.20 16.03 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 01.13.20 16.03 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW13** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-021 | Date Collected: | 01.09.20 10.24 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |
| Toluene | 108-88-3 | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0402 | 0.0402 | mg/kg | 01.10.20 14.39 | U | 10 |
| o-Xylene | 95-47-6 | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |
| Total Xylenes | 1330-20-7 | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |
| Total BTEX | | <0.0201 | 0.0201 | mg/kg | 01.10.20 14.39 | U | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.10.20 14.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.10.20 14.39 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW14** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-022 | Date Collected: | 01.09.20 10.27 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 11.44 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 16.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 16.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 16.22 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 16.22 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 16.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 01.13.20 16.22 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 01.13.20 16.22 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW14** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-022 | Date Collected: | 01.09.20 10.27 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.10.20 10.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.10.20 10.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.10.20 10.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.10.20 10.05 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW15** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-023 | Date Collected: | 01.09.20 10.31 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.4** | 9.94 | mg/kg | 01.10.20 11.49 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 17.00 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.13.20 17.00 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.13.20 17.00 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.13.20 17.00 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.13.20 17.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 17.00 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.13.20 17.00 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW15** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-023 | Date Collected: | 01.09.20 10.31 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.10.20 10.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.10.20 10.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.10.20 10.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.10.20 10.24 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SW16** Matrix: Soil Date Received:01.09.20 16.05
Lab Sample Id: 648593-024 Date Collected: 01.09.20 10.34 Sample Depth: 1 - 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.10.20 10.08 Basis: Wet Weight
Seq Number: 3112937

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.2** | 10.1 | mg/kg | 01.10.20 11.55 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 01.13.20 10.00 Basis: Wet Weight
Seq Number: 3113131 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 | 01.13.20 17.19 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **491** | 49.9 | mg/kg | 01.13.20 17.19 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **88.9** | 49.9 | mg/kg | 01.13.20 17.19 | | 1 |
| **Total GRO-DRO** | PHC628 | **491** | 49.9 | mg/kg | 01.13.20 17.19 | | 1 |
| **Total TPH** | PHC635 | **580** | 49.9 | mg/kg | 01.13.20 17.19 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 01.13.20 17.19 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 01.13.20 17.19 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW16** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-024 | Date Collected: | 01.09.20 10.34 | Sample Depth: | 1 - 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.10.20 10.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 10.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.10.20 10.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.10.20 10.43 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW17** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-025 | Date Collected: | 01.09.20 10.38 | Sample Depth: | 1 - 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **15.7** | 10.0 | mg/kg | 01.10.20 12.00 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 17.38 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **190** | 50.0 | mg/kg | 01.13.20 17.38 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 17.38 | U | 1 |
| **Total GRO-DRO** | PHC628 | **190** | 50.0 | mg/kg | 01.13.20 17.38 | | 1 |
| **Total TPH** | PHC635 | **190** | 50.0 | mg/kg | 01.13.20 17.38 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 01.13.20 17.38 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 01.13.20 17.38 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW17** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-025 | Date Collected: | 01.09.20 10.38 | Sample Depth: | 1 - 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |
| Toluene | 108-88-3 | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0392 | 0.0392 | mg/kg | 01.10.20 11.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |
| Total BTEX | | <0.0196 | 0.0196 | mg/kg | 01.10.20 11.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.10.20 11.02 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.10.20 11.02 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW18** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-026 | Date Collected: | 01.09.20 10.42 | Sample Depth: | 1 - 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 01.10.20 12.16 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 17.57 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1420** | 49.9 | mg/kg | 01.13.20 17.57 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **254** | 49.9 | mg/kg | 01.13.20 17.57 | | 1 |
| **Total GRO-DRO** | PHC628 | **1420** | 49.9 | mg/kg | 01.13.20 17.57 | | 1 |
| **Total TPH** | PHC635 | **1670** | 49.9 | mg/kg | 01.13.20 17.57 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 17.57 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 01.13.20 17.57 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW18** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-026 | Date Collected: | 01.09.20 10.42 | Sample Depth: | 1 - 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.21 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.21 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00230** | 0.00200 | mg/kg | 01.10.20 11.21 | | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.10.20 11.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 11.21 | U | 1 |
| **Total BTEX** | | **0.00230** | 0.00200 | mg/kg | 01.10.20 11.21 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.10.20 11.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 01.10.20 11.21 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SW19** Matrix: Soil Date Received:01.09.20 16.05

Lab Sample Id: 648593-027 Date Collected: 01.09.20 10.45 Sample Depth: 1 - 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 01.10.20 10.08 Basis: Wet Weight

Seq Number: 3112937

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 12.21 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.13.20 10.00 Basis: Wet Weight

Seq Number: 3113131 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 | 01.13.20 18.15 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.13.20 18.15 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.13.20 18.15 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.13.20 18.15 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.13.20 18.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 01.13.20 18.15 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 01.13.20 18.15 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW19** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-027 | Date Collected: | 01.09.20 10.45 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.10.20 11.40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.10.20 11.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 83 | % | 70-130 | 01.10.20 11.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 130 | % | 70-130 | 01.10.20 11.40 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW20** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-028 | Date Collected: | 01.09.20 10.50 | Sample Depth: | 1 - 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 12.27 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 18.34 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **64.4** | 50.0 | mg/kg | 01.13.20 18.34 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 18.34 | U | 1 |
| **Total GRO-DRO** | PHC628 | **64.4** | 50.0 | mg/kg | 01.13.20 18.34 | | 1 |
| **Total TPH** | PHC635 | **64.4** | 50.0 | mg/kg | 01.13.20 18.34 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 01.13.20 18.34 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 01.13.20 18.34 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW20** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-028 | Date Collected: | 01.09.20 10.50 | Sample Depth: | 1 - 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.10.20 12.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 12.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.10.20 12.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.10.20 12.00 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW21** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-029 | Date Collected: | 01.09.20 10.56 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.10.20 12.33 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 18.53 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **50.2** | 49.9 | mg/kg | 01.13.20 18.53 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.13.20 18.53 | U | 1 |
| **Total GRO-DRO** | PHC628 | **50.2** | 49.9 | mg/kg | 01.13.20 18.53 | | 1 |
| **Total TPH** | PHC635 | **50.2** | 49.9 | mg/kg | 01.13.20 18.53 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 18.53 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 01.13.20 18.53 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW21** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-029 | Date Collected: | 01.09.20 10.56 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.10.20 12.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.10.20 12.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.10.20 12.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.10.20 12.19 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW22** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-030 | Date Collected: | 01.09.20 11.00 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 12.39 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 19.11 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **223** | 50.0 | mg/kg | 01.13.20 19.11 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 19.11 | U | 1 |
| **Total GRO-DRO** | PHC628 | **223** | 50.0 | mg/kg | 01.13.20 19.11 | | 1 |
| **Total TPH** | PHC635 | **223** | 50.0 | mg/kg | 01.13.20 19.11 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 19.11 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.13.20 19.11 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW22** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-030 | Date Collected: | 01.09.20 11.00 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |
| Toluene | 108-88-3 | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0392 | 0.0392 | mg/kg | 01.10.20 12.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |
| Total BTEX | | <0.0196 | 0.0196 | mg/kg | 01.10.20 12.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.10.20 12.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.10.20 12.38 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW23** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-031 | Date Collected: | 01.09.20 11.11 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.10.20 12.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 19.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.13.20 19.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.13.20 19.30 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.13.20 19.30 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.13.20 19.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.13.20 19.30 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.13.20 19.30 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW23** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-031 | Date Collected: | 01.09.20 11.11 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.10.20 13.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.10.20 13.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.10.20 13.42 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.10.20 13.42 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW24** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-032 | Date Collected: | 01.09.20 11.15 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.10.20 13.02 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 10.00 | Basis: | Wet Weight |
| Seq Number: | 3113131 | | | 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 | 01.13.20 19.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 19.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 19.48 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 19.48 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 19.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 01.13.20 19.48 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 01.13.20 19.48 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW24** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-032 | Date Collected: | 01.09.20 11.15 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.10.20 14.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.10.20 14.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.10.20 14.01 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.10.20 14.01 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW25** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-033 | Date Collected: | 01.09.20 11.21 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.10.20 10.08 | Basis: | Wet Weight |
| Seq Number: | 3112937 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.10.20 13.08 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 01.13.20 12.00 | Basis: | Wet Weight |
| Seq Number: | 3113132 | | | 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 | 01.14.20 03.20 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **56.4** | 50.0 | mg/kg | 01.14.20 03.20 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.14.20 03.20 | U | 1 |
| **Total GRO-DRO** | PHC628 | **56.4** | 50.0 | mg/kg | 01.14.20 03.20 | | 1 |
| **Total TPH** | PHC635 | **56.4** | 50.0 | mg/kg | 01.14.20 03.20 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 01.14.20 03.20 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 01.14.20 03.20 | |

# Certificate of Analytical Results 648593

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW25** | Matrix: | Soil | Date Received: | 01.09.20 16.05 |
| Lab Sample Id: | 648593-033 | Date Collected: | 01.09.20 11.21 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.09.20 17.45 | Basis: | Wet Weight |
| Seq Number: | 3112936 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |
| Toluene | 108-88-3 | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0400 | 0.0400 | mg/kg | 01.10.20 14.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |
| Total BTEX | | <0.0200 | 0.0200 | mg/kg | 01.10.20 14.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.10.20 14.20 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.10.20 14.20 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 648593



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112878 — Matrix: Solid — Date Prep: 01.10.20
MB Sample Id: 7694093-1-BLK — LCS Sample Id: 7694093-1-BKS — LCSD Sample Id: 7694093-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 257 | 103 | 257 | 103 | 90-110 | 0 | 20 | mg/kg | 01.10.20 08:19 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112937 — Matrix: Solid — Date Prep: 01.10.20
MB Sample Id: 7694094-1-BLK — LCS Sample Id: 7694094-1-BKS — LCSD Sample Id: 7694094-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 258 | 103 | 260 | 104 | 90-110 | 1 | 20 | mg/kg | 01.10.20 11:17 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112878 — Matrix: Soil — Date Prep: 01.10.20
Parent Sample Id: 648593-001 — MS Sample Id: 648593-001 S — MSD Sample Id: 648593-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 5.27 | 199 | 208 | 102 | 210 | 102 | 90-110 | 1 | 20 | mg/kg | 01.10.20 08:36 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112878 — Matrix: Soil — Date Prep: 01.10.20
Parent Sample Id: 648593-011 — MS Sample Id: 648593-011 S — MSD Sample Id: 648593-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 13.6 | 201 | 217 | 101 | 219 | 102 | 90-110 | 1 | 20 | mg/kg | 01.10.20 09:51 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112937 — Matrix: Soil — Date Prep: 01.10.20
Parent Sample Id: 648593-021 — MS Sample Id: 648593-021 S — MSD Sample Id: 648593-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.64 | 201 | 208 | 101 | 208 | 102 | 90-110 | 0 | 20 | mg/kg | 01.10.20 11:33 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 648593



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112937 Matrix: Soil Date Prep: 01.10.20
Parent Sample Id: 648593-031 MS Sample Id: 648593-031 S MSD Sample Id: 648593-031 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.25 | 199 | 207 | 102 | 207 | 101 | 90-110 | 0 | 20 | mg/kg | 01.10.20 12:51 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112858 Matrix: Solid Date Prep: 01.09.20
MB Sample Id: 7694053-1-BLK LCS Sample Id: 7694053-1-BKS LCSD Sample Id: 7694053-1-BSD

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

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

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113131 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694234-1-BLK LCS Sample Id: 7694234-1-BKS LCSD Sample Id: 7694234-1-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 | 840 | 84 | 865 | 87 | 70-135 | 3 | 20 | mg/kg | 01.13.20 12:15 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 807 | 81 | 853 | 85 | 70-135 | 6 | 20 | mg/kg | 01.13.20 12:15 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 95 | | 119 | | 113 | | 70-135 | % | 01.13.20 12:15 |
| o-Terphenyl | 100 | | 103 | | 102 | | 70-135 | % | 01.13.20 12:15 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113132 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694235-1-BLK LCS Sample Id: 7694235-1-BKS LCSD Sample Id: 7694235-1-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 | 816 | 82 | 813 | 81 | 70-135 | 0 | 20 | mg/kg | 01.13.20 20:44 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 837 | 84 | 804 | 80 | 70-135 | 4 | 20 | mg/kg | 01.13.20 20:44 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 88 | | 114 | | 115 | | 70-135 | % | 01.13.20 20:44 |
| o-Terphenyl | 92 | | 101 | | 96 | | 70-135 | % | 01.13.20 20:44 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 648593



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112858 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694053-1-BLK

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

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113131 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694234-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.13.20 11:56 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113132 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694235-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.13.20 20:25 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112858 — Matrix: Soil — Date Prep: 01.09.20
Parent Sample Id: 648591-001 — MS Sample Id: 648591-001 S — MSD Sample Id: 648591-001 SD

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

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

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

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

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

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

# QC Summary 648593



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113131 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648593-013 — MS Sample Id: 648593-013 S — MSD Sample Id: 648593-013 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 997 | 801 | 80 | 806 | 81 | 70-135 | 1 | 20 | mg/kg | 01.13.20 13:11 | |
| Diesel Range Organics (DRO) | 28.4 | 997 | 794 | 77 | 841 | 81 | 70-135 | 6 | 20 | mg/kg | 01.13.20 13:11 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 104 | | 112 | | 70-135 | % | 01.13.20 13:11 |
| o-Terphenyl | 96 | | 96 | | 70-135 | % | 01.13.20 13:11 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113132 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648595-001 — MS Sample Id: 648595-001 S — MSD Sample Id: 648595-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 999 | 826 | 83 | 816 | 82 | 70-135 | 1 | 20 | mg/kg | 01.13.20 21:40 | |
| Diesel Range Organics (DRO) | <15.0 | 999 | 813 | 81 | 806 | 81 | 70-135 | 1 | 20 | mg/kg | 01.13.20 21:40 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 115 | | 114 | | 70-135 | % | 01.13.20 21:40 |
| o-Terphenyl | 102 | | 100 | | 70-135 | % | 01.13.20 21:40 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112886 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694077-1-BLK — LCS Sample Id: 7694077-1-BKS — LCSD Sample Id: 7694077-1-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 | 0.123 | 123 | 0.0915 | 92 | 70-130 | 29 | 35 | mg/kg | 01.10.20 03:23 | |
| Toluene | <0.00200 | 0.100 | 0.123 | 123 | 0.0928 | 93 | 70-130 | 28 | 35 | mg/kg | 01.10.20 03:23 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.120 | 120 | 0.0912 | 91 | 71-129 | 27 | 35 | mg/kg | 01.10.20 03:23 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.247 | 124 | 0.188 | 94 | 70-135 | 27 | 35 | mg/kg | 01.10.20 03:23 | |
| o-Xylene | <0.00200 | 0.100 | 0.122 | 122 | 0.0928 | 93 | 71-133 | 27 | 35 | mg/kg | 01.10.20 03:23 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 101 | | 97 | | 70-130 | % | 01.10.20 03:23 |
| 4-Bromofluorobenzene | 101 | | 103 | | 99 | | 70-130 | % | 01.10.20 03:23 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 648593

## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112936 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694079-1-BLK — LCS Sample Id: 7694079-1-BKS — LCSD Sample Id: 7694079-1-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 | 0.107 | 107 | 70-130 | 1 | 35 | mg/kg | 01.09.20 22:22 | |
| Toluene | <0.00200 | 0.100 | 0.105 | 105 | 0.130 | 130 | 70-130 | 21 | 35 | mg/kg | 01.09.20 22:22 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.107 | 107 | 0.128 | 128 | 71-129 | 18 | 35 | mg/kg | 01.09.20 22:22 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.216 | 108 | 0.257 | 129 | 70-135 | 17 | 35 | mg/kg | 01.09.20 22:22 | |
| o-Xylene | <0.00200 | 0.100 | 0.108 | 108 | 0.131 | 131 | 71-133 | 19 | 35 | mg/kg | 01.09.20 22:22 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 102 | | 103 | | 70-130 | % | 01.09.20 22:22 |
| 4-Bromofluorobenzene | 102 | | 105 | | 112 | | 70-130 | % | 01.09.20 22:22 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112886 — Matrix: Soil — Date Prep: 01.09.20
Parent Sample Id: 648593-001 — MS Sample Id: 648593-001 S — MSD Sample Id: 648593-001 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 | 0.0854 | 86 | 0.0978 | 98 | 70-130 | 14 | 35 | mg/kg | 01.10.20 03:58 | |
| Toluene | 0.000717 | 0.0998 | 0.0771 | 77 | 0.0963 | 96 | 70-130 | 22 | 35 | mg/kg | 01.10.20 03:58 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.0639 | 64 | 0.0885 | 89 | 71-129 | 32 | 35 | mg/kg | 01.10.20 03:58 | X |
| m,p-Xylenes | <0.000752 | 0.200 | 0.134 | 67 | 0.179 | 89 | 70-135 | 29 | 35 | mg/kg | 01.10.20 03:58 | X |
| o-Xylene | <0.00200 | 0.0998 | 0.0643 | 64 | 0.0898 | 90 | 71-133 | 33 | 35 | mg/kg | 01.10.20 03:58 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 99 | | 70-130 | % | 01.10.20 03:58 |
| 4-Bromofluorobenzene | 95 | | 112 | | 70-130 | % | 01.10.20 03:58 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3112936 — Matrix: Soil — Date Prep: 01.09.20
Parent Sample Id: 648593-022 — MS Sample Id: 648593-022 S — MSD Sample Id: 648593-022 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | 0.101 | 0.113 | 112 | 0.122 | 122 | 70-130 | 8 | 35 | mg/kg | 01.10.20 09:07 | |
| Toluene | <0.00201 | 0.101 | 0.109 | 108 | 0.114 | 114 | 70-130 | 4 | 35 | mg/kg | 01.10.20 09:07 | |
| Ethylbenzene | <0.00201 | 0.101 | 0.104 | 103 | 0.105 | 105 | 71-129 | 1 | 35 | mg/kg | 01.10.20 09:07 | |
| m,p-Xylenes | <0.00402 | 0.201 | 0.206 | 102 | 0.203 | 101 | 70-135 | 1 | 35 | mg/kg | 01.10.20 09:07 | |
| o-Xylene | <0.00201 | 0.101 | 0.108 | 107 | 0.109 | 109 | 71-133 | 1 | 35 | mg/kg | 01.10.20 09:07 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 104 | | 70-130 | % | 01.10.20 09:07 |
| 4-Bromofluorobenzene | 113 | | 111 | | 70-130 | % | 01.10.20 09:07 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 648593

XENCO LABORATORIES

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

www.xenco.com Page 1 of 4

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 3-day | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 1.0 | Thermometer ID | TNN002 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 33 |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS65 | S | 1/8/20 | 14:15 | 4' | 1 | X | X | X |
| FS66 | | | 14:18 | | 1 | X | X | X |
| FS67 | | | 14:21 | | 1 | X | X | X |
| FS68 | | | 14:25 | | 1 | X | X | X |
| FS69 | | | 14:28 | | 1 | X | X | X |
| FS70 | | | 14:31 | | 1 | X | X | X |
| FS71 | | | 14:36 | | 1 | X | X | X |
| FS72 | | | 14:40 | | 1 | X | X | X |
| FS73 | | | 14:43 | | 1 | X | X | X |
| FS74 | | | 14:47 | | 1 | X | X | X |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

Will composite discrete

**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 Tl 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 **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 |
|---|---|---|---|---|---|
| W. Mather | | 1/9/20 16:15 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

XENCO LABORATORIES

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: 648593

www.xenco.com Page 2 of 4

| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 3-day | |
| Sampler's Name: | William Mather | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS75 | S | 1/8/20 | 14:49 | 4' | 1 | X | X | X | COMPOSITE |
| FS76 | | | 14:54 | 4' | 1 | X | X | X | |
| FS77 | | | 14:58 | 3' | 1 | X | X | X | |
| FS78 | | | 15:05 | 4' | 1 | X | X | X | |
| FS79 | | | 15:08 | 4' | 1 | X | X | X | |
| FS80 | | | 15:10 | 3' | 1 | X | X | X | |
| FS81 | | | 15:12 | 3' | 1 | X | X | X | |
| SW10 | | 1/9/20 | 9:37 | 1-4' | 1 | X | X | X | |
| SW11 | | | 9:41 | 1-4' | 1 | X | X | X | |
| SW12 | | | 9:45 | 1-4' | 1 | X | X | X | |

Work Order Notes

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/9/20 16:15 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 648593

XENCO LABORATORIES

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 3-day | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No | |
| Temperature (°C): | 2.8 | Thermometer ID | | |
| Received Intact: | Yes No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SW13 | S | 1/9/20 | 10:24 | 1-4' | 1 | X | X | X | Composite |
| SW14 | | | 10:27 | 1-4' | 1 | X | X | X | |
| SW15 | | | 10:31 | 1-4' | 1 | X | X | X | |
| SW16 | | | 10:34 | 1-3' | 1 | X | X | X | |
| SW17 | | | 10:38 | 1-3' | 1 | X | X | X | |
| SW18 | | | 10:42 | 1-3' | 1 | X | X | X | |
| SW19 | | | 10:45 | 1-4' | 1 | X | X | X | |
| SW20 | | | 10:50 | 1-3' | 1 | X | X | X | |
| SW21 | | | 10:56 | 1-4' | 1 | X | X | X | |
| SW22 | | | 11:00 | 1-4' | 1 | X | X | X | |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|---|
| 1 | | | 1/9/20 16:15 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

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# Chain of Custody

Work Order No: 648593

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | LEA | Rush: 3 day | |
| Sampler's Name: | William Mather | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SW23 | S | 1/9/20 | 11:11 | 1-4' | 1 | X | X | X | Composite |
| SW24 | S | " | 11:15 | 1-4' | 1 | X | X | X | " |
| SW25 | S | " | 11:21 | 1-4' | 1 | X | X | X | " |

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/9/20 16:15 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

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# Inter-Office Shipment





**IOS Number** **55818**

Date/Time: 01/10/20 11:32
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 777451781071

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 648593-013 | S | FS77 | 01/08/20 14:58 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/22/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-014 | S | FS78 | 01/08/20 15:05 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/22/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-015 | S | FS79 | 01/08/20 15:08 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/22/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-016 | S | FS80 | 01/08/20 15:10 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/22/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-017 | S | FS81 | 01/08/20 15:12 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/22/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-018 | S | SW10 | 01/09/20 09:37 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-019 | S | SW11 | 01/09/20 09:41 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-020 | S | SW12 | 01/09/20 09:45 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-021 | S | SW13 | 01/09/20 10:24 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-022 | S | SW14 | 01/09/20 10:27 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-023 | S | SW15 | 01/09/20 10:31 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-024 | S | SW16 | 01/09/20 10:34 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-025 | S | SW17 | 01/09/20 10:38 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-026 | S | SW18 | 01/09/20 10:42 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-027 | S | SW19 | 01/09/20 10:45 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-028 | S | SW20 | 01/09/20 10:50 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-029 | S | SW21 | 01/09/20 10:56 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-030 | S | SW22 | 01/09/20 11:00 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-031 | S | SW23 | 01/09/20 11:11 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-032 | S | SW24 | 01/09/20 11:15 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |
| 648593-033 | S | SW25 | 01/09/20 11:21 | SW8015MOD_NM | TPH by SW8015 Mod | 01/13/20 | 01/23/20 | JKR | GRO-DRO PHCC10C28 PI | |

# Inter-Office Shipment





**IOS Number** **55818**

Date/Time: 01/10/20 11:32
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 777451781071

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

**Inter Office Shipment or Sample Comments:**

Relinquished By: Elizabeth McClellan

Date Relinquished: 01/10/2020

Received By: Brianna Teel

Date Received: 01/13/2020 07:13

Cooler Temperature:

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 55818

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**
**Temperature Measuring device used : R8**

**Sent By:** Elizabeth McClellan **Date Sent:** 01/10/2020 11:32 AM

**Received By:** Brianna Teel **Date Received:** 01/13/2020 07:13 AM

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | | |
| #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: 01/13/2020

Brianna Teel

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01.09.2020 04.05.00 PM

**Work Order #:** 648593

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01.09.2020

**Checklist reviewed by:** Jessica Kramer Date: 01.10.2020

Jessica Kramer

# Analytical Report 648831

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**15-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)

15-JAN-20

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

Reference: XENCO Report No(s): **648831**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 648831. 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. 648831 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS82 | S | 01-10-20 12:51 | 4 ft | 648831-001 |
| FS83 | S | 01-10-20 12:54 | 4 ft | 648831-002 |
| FS84 | S | 01-10-20 13:00 | 3.5 ft | 648831-003 |
| FS85 | S | 01-10-20 13:03 | 3.5 ft | 648831-004 |
| FS86 | S | 01-10-20 13:06 | 3.5 ft | 648831-005 |
| FS87 | S | 01-10-20 13:09 | 4 ft | 648831-006 |
| FS88 | S | 01-10-20 13:15 | 4 ft | 648831-007 |
| FS89 | S | 01-10-20 13:18 | 4 ft | 648831-008 |
| FS90 | S | 01-10-20 13:21 | 4 ft | 648831-009 |
| FS91 | S | 01-10-20 13:35 | 4 ft | 648831-010 |
| FS92 | S | 01-10-20 13:39 | 4 ft | 648831-011 |
| FS93 | S | 01-10-20 13:42 | 4 ft | 648831-012 |
| FS94 | S | 01-10-20 13:46 | 4 ft | 648831-013 |
| FS95 | S | 01-10-20 14:03 | 4 ft | 648831-014 |
| FS96 | S | 01-10-20 14:06 | 4 ft | 648831-015 |
| FS97 | S | 01-10-20 14:09 | 4 ft | 648831-016 |
| FS98 | S | 01-10-20 14:10 | 4 ft | 648831-017 |
| FS99 | S | 01-10-20 14:11 | 4 ft | 648831-018 |
| FS100 | S | 01-10-20 14:14 | 4 ft | 648831-019 |
| FS101 | S | 01-10-20 14:18 | 4 ft | 648831-020 |
| FS102 | S | 01-10-20 14:21 | 4 ft | 648831-021 |
| FS103 | S | 01-10-20 14:30 | 4 ft | 648831-022 |
| FS104 | S | 01-10-20 14:46 | 4 ft | 648831-023 |
| FS105 | S | 01-10-20 14:49 | 4 ft | 648831-024 |
| FS106 | S | 01-10-20 14:52 | 4 ft | 648831-025 |
| FS107 | S | 01-10-20 14:54 | 4 ft | 648831-026 |
| FS108 | S | 01-10-20 14:58 | 4 ft | 648831-027 |
| FS109 | S | 01-10-20 14:59 | 4 ft | 648831-028 |
| FS110 | S | 01-10-20 15:01 | 4 ft | 648831-029 |
| FS111 | S | 01-10-20 15:06 | 4 ft | 648831-030 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *648831*

Report Date: *15-JAN-20*
Date Received: *01/13/2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3113090 TPH by SW8015 Mod
Lab Sample ID 648831-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 648831-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3113104 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3113145 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 648831-021 SD.

Batch: LBA-3113150 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 648831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Jan-13-20 12:40 pm
**Report Date:** 15-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648831-001 | | 648831-002 | | 648831-003 | | 648831-004 | | 648831-005 | | 648831-006 | |
| | ***Field Id:*** | FS82 | | FS83 | | FS84 | | FS85 | | FS86 | | FS87 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 3.5- ft | | 3.5- ft | | 3.5- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-10-20 12:51 | | Jan-10-20 12:54 | | Jan-10-20 13:00 | | Jan-10-20 13:03 | | Jan-10-20 13:06 | | Jan-10-20 13:09 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 16:09 | | Jan-13-20 16:26 | | Jan-13-20 16:44 | | Jan-13-20 17:01 | | Jan-13-20 17:18 | | Jan-13-20 17:36 | |
| | ***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 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00395 | 0.00395 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 15:49 | | Jan-13-20 16:05 | | Jan-13-20 16:11 | | Jan-13-20 16:16 | | Jan-13-20 16:21 | | Jan-13-20 16:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | 11.1 | 9.92 | <9.94 | 9.94 | <10.0 | 10.0 | <10.1 | 10.1 | 15.3 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-13-20 20:32 | | Jan-13-20 21:32 | | Jan-13-20 21:52 | | Jan-13-20 22:12 | | Jan-13-20 22:32 | | Jan-13-20 22:52 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.3 | 50.3 | 110 | 50.2 | 124 | 50.1 | 81.1 | 50.2 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.3 | 50.3 | <50.2 | 50.2 | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.1 | 50.1 | <50.3 | 50.3 | 110 | 50.2 | 124 | 50.1 | 81.1 | 50.2 | <50.2 | 50.2 |
| Total TPH | | <50.1 | 50.1 | <50.3 | 50.3 | 110 | 50.2 | 124 | 50.1 | 81.1 | 50.2 | <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.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Jan-13-20 12:40 pm
**Report Date:** 15-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648831-007 | | 648831-008 | | 648831-009 | | 648831-010 | | 648831-011 | | 648831-012 | |
| | ***Field Id:*** | FS88 | | FS89 | | FS90 | | FS91 | | FS92 | | FS93 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-10-20 13:15 | | Jan-10-20 13:18 | | Jan-10-20 13:21 | | Jan-10-20 13:35 | | Jan-10-20 13:39 | | Jan-10-20 13:42 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 17:53 | | Jan-13-20 18:11 | | Jan-13-20 18:28 | | Jan-13-20 18:45 | | Jan-13-20 20:12 | | Jan-13-20 20:29 | |
| | ***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 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.0397 | 0.0397 | <0.00402 | 0.00402 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0198 | 0.0198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 16:43 | | Jan-13-20 16:48 | | Jan-13-20 16:54 | | Jan-13-20 16:59 | | Jan-13-20 17:04 | | Jan-13-20 17:20 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 27.1 | 10.0 | 144 | 49.9 | 105 | 9.88 | 57.4 | 9.98 | 21.9 | 9.88 | 113 | 49.7 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-13-20 23:12 | | Jan-13-20 23:32 | | Jan-13-20 23:52 | | Jan-14-20 00:12 | | Jan-14-20 00:52 | | Jan-14-20 01:12 | |
| | ***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 | <50.0 | 50.0 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | 136 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | 501 | 50.0 | <50.2 | 50.2 | 137 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | 51.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 |
| Total GRO-DRO | | 136 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | 501 | 50.0 | <50.2 | 50.2 | 137 | 50.3 |
| Total TPH | | 136 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 | 552 | 50.0 | <50.2 | 50.2 | 137 | 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.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Jan-13-20 12:40 pm
**Report Date:** 15-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648831-013 | | 648831-014 | | 648831-015 | | 648831-016 | | 648831-017 | | 648831-018 | |
| | ***Field Id:*** | FS94 | | FS95 | | FS96 | | FS97 | | FS98 | | FS99 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-10-20 13:46 | | Jan-10-20 14:03 | | Jan-10-20 14:06 | | Jan-10-20 14:09 | | Jan-10-20 14:10 | | Jan-10-20 14:11 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 20:47 | | Jan-13-20 21:04 | | Jan-13-20 21:22 | | Jan-13-20 22:49 | | Jan-13-20 21:39 | | Jan-14-20 09:50 | |
| | ***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 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00396 | 0.00396 | <0.0401 | 0.0401 | <0.00402 | 0.00402 | <0.00395 | 0.00395 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.0200 | 0.0200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 17:26 | | Jan-13-20 17:42 | | Jan-13-20 17:47 | | Jan-13-20 17:53 | | Jan-13-20 17:58 | | Jan-13-20 18:03 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 305 | 49.7 | 28.1 | 9.94 | <9.90 | 9.90 | 11.3 | 10.0 | 33.6 | 10.1 | <9.98 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-14-20 01:31 | | Jan-14-20 01:51 | | Jan-14-20 02:11 | | Jan-14-20 02:31 | | Jan-14-20 02:51 | | Jan-14-20 03:11 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 | 626 | 50.1 | 388 | 49.8 | 118 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 | 70.7 | 50.1 | <49.8 | 49.8 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 | 626 | 50.1 | 388 | 49.8 | 118 | 50.2 |
| Total TPH | | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 | 697 | 50.1 | 388 | 49.8 | 118 | 50.2 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Jan-13-20 12:40 pm
**Report Date:** 15-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648831-019 | | 648831-020 | | 648831-021 | | 648831-022 | | 648831-023 | | 648831-024 | |
| | ***Field Id:*** | FS100 | | FS101 | | FS102 | | FS103 | | FS104 | | FS105 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-10-20 14:14 | | Jan-10-20 14:18 | | Jan-10-20 14:21 | | Jan-10-20 14:30 | | Jan-10-20 14:46 | | Jan-10-20 14:49 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-13-20 22:14 | | Jan-13-20 22:31 | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***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 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00395 | 0.00395 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 18:09 | | Jan-13-20 18:14 | | Jan-13-20 18:46 | | Jan-13-20 19:03 | | Jan-13-20 19:08 | | Jan-13-20 19:13 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 10.4 | 9.88 | 9.98 | 9.94 | <9.96 | 9.96 | 41.0 | 10.0 | 39.9 | 10.0 | 25.5 | 10.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-14-20 03:30 | | Jan-14-20 03:50 | | Jan-14-20 05:28 | | Jan-14-20 06:27 | | Jan-14-20 06:47 | | Jan-14-20 07:06 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 | 224 | 49.8 | 144 | 50.0 | 76.4 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.3 | 50.3 |
| Total GRO-DRO | | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 | 224 | 49.8 | 144 | 50.0 | 76.4 | 50.3 |
| Total TPH | | <50.3 | 50.3 | <50.2 | 50.2 | <50.0 | 50.0 | 224 | 49.8 | 144 | 50.0 | 76.4 | 50.3 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 648831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Jan-13-20 12:40 pm
**Report Date:** 15-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648831-025 | | 648831-026 | | 648831-027 | | 648831-028 | | 648831-029 | | 648831-030 | |
| | ***Field Id:*** | FS106 | | FS107 | | FS108 | | FS109 | | FS110 | | FS111 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-10-20 14:52 | | Jan-10-20 14:54 | | Jan-10-20 14:58 | | Jan-10-20 14:59 | | Jan-10-20 15:01 | | Jan-10-20 15:06 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-13-20 17:34 | | Jan-13-20 17:53 | | Jan-13-20 18:50 | | Jan-13-20 19:10 | | Jan-13-20 18:12 | | Jan-13-20 18:31 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0200 | 0.0200 | <0.0202 | 0.0202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0200 | 0.0200 | <0.0202 | 0.0202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.0200 | 0.0200 | 0.0772 | 0.0202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.0399 | 0.0399 | 0.116 | 0.0404 | 0.00433 | 0.00396 | 0.00534 | 0.00400 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | 0.0969 | 0.0200 | 0.0497 | 0.0202 | <0.00198 | 0.00198 | 0.00531 | 0.00200 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | 0.0969 | 0.0200 | 0.166 | 0.0202 | 0.00433 | 0.00198 | 0.0107 | 0.00200 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | 0.0969 | 0.0200 | 0.243 | 0.0202 | 0.00433 | 0.00198 | 0.0107 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | | Jan-13-20 13:30 | |
| | ***Analyzed:*** | Jan-13-20 19:19 | | Jan-13-20 19:35 | | Jan-13-20 19:40 | | Jan-13-20 19:46 | | Jan-13-20 19:51 | | Jan-13-20 19:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 19.7 | 9.92 | 17.2 | 9.94 | 24.4 | 9.98 | 44.4 | 9.92 | 17.5 | 9.98 | 77.4 | 9.96 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | | Jan-13-20 17:30 | |
| | ***Analyzed:*** | Jan-14-20 07:26 | | Jan-14-20 07:46 | | Jan-14-20 08:46 | | Jan-14-20 13:07 | | Jan-14-20 10:06 | | Jan-14-20 10:26 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | <50.1 | 50.1 | <50.1 | 50.1 | 392 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | 52.1 | 50.3 | 86.0 | 50.1 | 368 | 50.1 | 3230 | 50.3 | 172 | 50.2 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.3 | 50.3 | <50.1 | 50.1 | 65.5 | 50.1 | 318 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total GRO-DRO | | 52.1 | 50.3 | 86.0 | 50.1 | 368 | 50.1 | 3620 | 50.3 | 172 | 50.2 | <50.2 | 50.2 |
| Total TPH | | 52.1 | 50.3 | 86.0 | 50.1 | 434 | 50.1 | 3940 | 50.3 | 172 | 50.2 | <50.2 | 50.2 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS82** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-001 | Date Collected: | 01.10.20 12.51 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.13.20 15.49 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.13.20 20.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.13.20 20.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.13.20 20.32 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.13.20 20.32 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.13.20 20.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 117 | % | 70-135 | 01.13.20 20.32 | |
| o-Terphenyl | 84-15-1 | 117 | % | 70-135 | 01.13.20 20.32 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS82** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-001 | Date Collected: | 01.10.20 12.51 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.13.20 16.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.13.20 16.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.13.20 16.09 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS83** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-002 | Date Collected: | 01.10.20 12.54 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.1** | 9.92 | mg/kg | 01.13.20 16.05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.13.20 21.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.13.20 21.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.13.20 21.32 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.13.20 21.32 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.13.20 21.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.13.20 21.32 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 01.13.20 21.32 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS83** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-002 | Date Collected: | 01.10.20 12.54 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 16.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.13.20 16.26 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 16.26 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS84** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-003 | Date Collected: | 01.10.20 13.00 | Sample Depth: | 3.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 01.13.20 16.11 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.13.20 21.52 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **110** | 50.2 | mg/kg | 01.13.20 21.52 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.13.20 21.52 | U | 1 |
| **Total GRO-DRO** | PHC628 | **110** | 50.2 | mg/kg | 01.13.20 21.52 | | 1 |
| **Total TPH** | PHC635 | **110** | 50.2 | mg/kg | 01.13.20 21.52 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.13.20 21.52 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 01.13.20 21.52 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS84** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-003 | Date Collected: | 01.10.20 13.00 | Sample Depth: | 3.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.13.20 16.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.13.20 16.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.13.20 16.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 16.44 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS85** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-004 | Date Collected: | 01.10.20 13.03 | Sample Depth: | 3.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.13.20 16.16 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.13.20 22.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **124** | 50.1 | mg/kg | 01.13.20 22.12 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.13.20 22.12 | U | 1 |
| **Total GRO-DRO** | PHC628 | **124** | 50.1 | mg/kg | 01.13.20 22.12 | | 1 |
| **Total TPH** | PHC635 | **124** | 50.1 | mg/kg | 01.13.20 22.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.13.20 22.12 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 01.13.20 22.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS85** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-004 | Date Collected: | 01.10.20 13.03 | Sample Depth: | 3.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00395 | 0.00395 | mg/kg | 01.13.20 17.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.13.20 17.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.13.20 17.01 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.13.20 17.01 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS86** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-005 | Date Collected: | 01.10.20 13.06 | Sample Depth: | 3.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.13.20 16.21 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.13.20 22.32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **81.1** | 50.2 | mg/kg | 01.13.20 22.32 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.13.20 22.32 | U | 1 |
| **Total GRO-DRO** | PHC628 | **81.1** | 50.2 | mg/kg | 01.13.20 22.32 | | 1 |
| **Total TPH** | PHC635 | **81.1** | 50.2 | mg/kg | 01.13.20 22.32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.13.20 22.32 | |
| o-Terphenyl | 84-15-1 | 117 | % | 70-135 | 01.13.20 22.32 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS86** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-005 | Date Collected: | 01.10.20 13.06 | Sample Depth: | 3.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 17.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 17.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.13.20 17.18 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS87** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-006 | Date Collected: | 01.10.20 13.09 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **15.3** | 10.0 | mg/kg | 01.13.20 16.37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.13.20 22.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.13.20 22.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.13.20 22.52 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.13.20 22.52 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.13.20 22.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 01.13.20 22.52 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 01.13.20 22.52 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS87** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-006 | Date Collected: | 01.10.20 13.09 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 17.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 17.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.13.20 17.36 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS88** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-007 | Date Collected: | 01.10.20 13.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **27.1** | 10.0 | mg/kg | 01.13.20 16.43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.13.20 23.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **136** | 50.1 | mg/kg | 01.13.20 23.12 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.13.20 23.12 | U | 1 |
| **Total GRO-DRO** | PHC628 | **136** | 50.1 | mg/kg | 01.13.20 23.12 | | 1 |
| **Total TPH** | PHC635 | **136** | 50.1 | mg/kg | 01.13.20 23.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.13.20 23.12 | |
| o-Terphenyl | 84-15-1 | 119 | % | 70-135 | 01.13.20 23.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS88** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-007 | Date Collected: | 01.10.20 13.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.13.20 17.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.13.20 17.53 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.13.20 17.53 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS89** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-008 | Date Collected: | 01.10.20 13.18 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **144** | 49.9 | mg/kg | 01.13.20 16.48 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.13.20 23.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.13.20 23.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.13.20 23.32 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.13.20 23.32 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.13.20 23.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.13.20 23.32 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 01.13.20 23.32 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS89** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-008 | Date Collected: | 01.10.20 13.18 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 18.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 18.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.13.20 18.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 18.11 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS90** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-009 | Date Collected: | 01.10.20 13.21 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **105** | 9.88 | mg/kg | 01.13.20 16.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.13.20 23.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.13.20 23.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.13.20 23.52 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.13.20 23.52 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.13.20 23.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 117 | % | 70-135 | 01.13.20 23.52 | |
| o-Terphenyl | 84-15-1 | 115 | % | 70-135 | 01.13.20 23.52 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS90** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-009 | Date Collected: | 01.10.20 13.21 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.13.20 18.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.13.20 18.28 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 18.28 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS91** Matrix: Soil Date Received:01.13.20 12.40
Lab Sample Id: 648831-010 Date Collected: 01.10.20 13.35 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.13.20 13.30 Basis: Wet Weight
Seq Number: 3113135

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.4** | 9.98 | mg/kg | 01.13.20 16.59 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.13.20 17.30 Basis: Wet Weight
Seq Number: 3113090

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.14.20 00.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **501** | 50.0 | mg/kg | 01.14.20 00.12 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **51.0** | 50.0 | mg/kg | 01.14.20 00.12 | | 1 |
| **Total GRO-DRO** | PHC628 | **501** | 50.0 | mg/kg | 01.14.20 00.12 | | 1 |
| **Total TPH** | PHC635 | **552** | 50.0 | mg/kg | 01.14.20 00.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.14.20 00.12 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 01.14.20 00.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS91** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-010 | Date Collected: | 01.10.20 13.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |
| Toluene | 108-88-3 | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0397 | 0.0397 | mg/kg | 01.13.20 18.45 | U | 10 |
| o-Xylene | 95-47-6 | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |
| Total Xylenes | 1330-20-7 | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |
| Total BTEX | | <0.0198 | 0.0198 | mg/kg | 01.13.20 18.45 | U | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.13.20 18.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 18.45 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS92** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-011 | Date Collected: | 01.10.20 13.39 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **21.9** | 9.88 | mg/kg | 01.13.20 17.04 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 00.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.14.20 00.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 00.52 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.14.20 00.52 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.14.20 00.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.14.20 00.52 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 01.14.20 00.52 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS92** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-011 | Date Collected: | 01.10.20 13.39 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.13.20 20.12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.13.20 20.12 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 20.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS93** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-012 | Date Collected: | 01.10.20 13.42 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **113** | 49.7 | mg/kg | 01.13.20 17.20 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.14.20 01.12 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **137** | 50.3 | mg/kg | 01.14.20 01.12 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.14.20 01.12 | U | 1 |
| **Total GRO-DRO** | PHC628 | **137** | 50.3 | mg/kg | 01.14.20 01.12 | | 1 |
| **Total TPH** | PHC635 | **137** | 50.3 | mg/kg | 01.14.20 01.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.14.20 01.12 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 01.14.20 01.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS93** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-012 | Date Collected: | 01.10.20 13.42 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.13.20 20.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.13.20 20.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.13.20 20.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 20.29 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS94** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-013 | Date Collected: | 01.10.20 13.46 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **305** | 49.7 | mg/kg | 01.13.20 17.26 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.14.20 01.31 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.14.20 01.31 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.14.20 01.31 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.14.20 01.31 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.14.20 01.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.14.20 01.31 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 01.14.20 01.31 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS94** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-013 | Date Collected: | 01.10.20 13.46 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.13.20 20.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 20.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 20.47 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.13.20 20.47 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS95** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-014 | Date Collected: | 01.10.20 14.03 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **28.1** | 9.94 | mg/kg | 01.13.20 17.42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.14.20 01.51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.14.20 01.51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.14.20 01.51 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.14.20 01.51 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.14.20 01.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.14.20 01.51 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 01.14.20 01.51 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS95** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-014 | Date Collected: | 01.10.20 14.03 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 21.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 21.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.13.20 21.04 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 21.04 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS96** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-015 | Date Collected: | 01.10.20 14.06 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.90 | 9.90 | mg/kg | 01.13.20 17.47 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 02.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.14.20 02.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 02.11 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.14.20 02.11 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.14.20 02.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.14.20 02.11 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.14.20 02.11 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS96** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-015 | Date Collected: | 01.10.20 14.06 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.13.20 21.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.13.20 21.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.13.20 21.22 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.13.20 21.22 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS97** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-016 | Date Collected: | 01.10.20 14.09 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.3** | 10.0 | mg/kg | 01.13.20 17.53 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.14.20 02.31 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **626** | 50.1 | mg/kg | 01.14.20 02.31 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **70.7** | 50.1 | mg/kg | 01.14.20 02.31 | | 1 |
| **Total GRO-DRO** | PHC628 | **626** | 50.1 | mg/kg | 01.14.20 02.31 | | 1 |
| **Total TPH** | PHC635 | **697** | 50.1 | mg/kg | 01.14.20 02.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.14.20 02.31 | |
| o-Terphenyl | 84-15-1 | 117 | % | 70-135 | 01.14.20 02.31 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS97** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-016 | Date Collected: | 01.10.20 14.09 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |
| Toluene | 108-88-3 | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0401 | 0.0401 | mg/kg | 01.13.20 22.49 | U | 10 |
| o-Xylene | 95-47-6 | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |
| Total Xylenes | 1330-20-7 | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |
| Total BTEX | | <0.0200 | 0.0200 | mg/kg | 01.13.20 22.49 | U | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 01.13.20 22.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.13.20 22.49 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS98** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-017 | Date Collected: | 01.10.20 14.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.6** | 10.1 | mg/kg | 01.13.20 17.58 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.14.20 02.51 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **388** | 49.8 | mg/kg | 01.14.20 02.51 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.14.20 02.51 | U | 1 |
| **Total GRO-DRO** | PHC628 | **388** | 49.8 | mg/kg | 01.14.20 02.51 | | 1 |
| **Total TPH** | PHC635 | **388** | 49.8 | mg/kg | 01.14.20 02.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.14.20 02.51 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 01.14.20 02.51 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS98** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-017 | Date Collected: | 01.10.20 14.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.13.20 21.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.13.20 21.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.13.20 21.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.13.20 21.39 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS99** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-018 | Date Collected: | 01.10.20 14.11 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.13.20 18.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 03.11 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **118** | 50.2 | mg/kg | 01.14.20 03.11 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 03.11 | U | 1 |
| **Total GRO-DRO** | PHC628 | **118** | 50.2 | mg/kg | 01.14.20 03.11 | | 1 |
| **Total TPH** | PHC635 | **118** | 50.2 | mg/kg | 01.14.20 03.11 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 01.14.20 03.11 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.14.20 03.11 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS99** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-018 | Date Collected: | 01.10.20 14.11 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00395 | 0.00395 | mg/kg | 01.14.20 09.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.14.20 09.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.14.20 09.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.14.20 09.50 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS100** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-019 | Date Collected: | 01.10.20 14.14 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.4** | 9.88 | mg/kg | 01.13.20 18.09 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.14.20 03.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.14.20 03.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.14.20 03.30 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.14.20 03.30 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.14.20 03.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-135 | 01.14.20 03.30 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 01.14.20 03.30 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS100** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-019 | Date Collected: | 01.10.20 14.14 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00395 | 0.00395 | mg/kg | 01.13.20 22.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.13.20 22.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.13.20 22.14 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.13.20 22.14 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS101** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-020 | Date Collected: | 01.10.20 14.18 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113135 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.98** | 9.94 | mg/kg | 01.13.20 18.14 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 03.50 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.14.20 03.50 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 03.50 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.14.20 03.50 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.14.20 03.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.14.20 03.50 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 01.14.20 03.50 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS101** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-020 | Date Collected: | 01.10.20 14.18 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113104 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.13.20 22.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 22.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.13.20 22.31 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 22.31 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS102** Matrix: Soil Date Received:01.13.20 12.40
Lab Sample Id: 648831-021 Date Collected: 01.10.20 14.21 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.13.20 13.30 Basis: Wet Weight
Seq Number: 3113138

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.96 | 9.96 | mg/kg | 01.13.20 18.46 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.13.20 17.30 Basis: Wet Weight
Seq Number: 3113145

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.14.20 05.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.14.20 05.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.14.20 05.28 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.14.20 05.28 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.14.20 05.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 01.14.20 05.28 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 01.14.20 05.28 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS102** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-021 | Date Collected: | 01.10.20 14.21 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 16.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 16.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.13.20 16.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.13.20 16.17 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS103** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-022 | Date Collected: | 01.10.20 14.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **41.0** | 10.0 | mg/kg | 01.13.20 19.03 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.14.20 06.27 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **224** | 49.8 | mg/kg | 01.14.20 06.27 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.14.20 06.27 | U | 1 |
| **Total GRO-DRO** | PHC628 | **224** | 49.8 | mg/kg | 01.14.20 06.27 | | 1 |
| **Total TPH** | PHC635 | **224** | 49.8 | mg/kg | 01.14.20 06.27 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 01.14.20 06.27 | |
| o-Terphenyl | 84-15-1 | 121 | % | 70-135 | 01.14.20 06.27 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS103** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-022 | Date Collected: | 01.10.20 14.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.13.20 16.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.13.20 16.37 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 01.13.20 16.37 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS104** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-023 | Date Collected: | 01.10.20 14.46 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.9** | 10.0 | mg/kg | 01.13.20 19.08 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.14.20 06.47 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **144** | 50.0 | mg/kg | 01.14.20 06.47 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.14.20 06.47 | U | 1 |
| **Total GRO-DRO** | PHC628 | **144** | 50.0 | mg/kg | 01.14.20 06.47 | | 1 |
| **Total TPH** | PHC635 | **144** | 50.0 | mg/kg | 01.14.20 06.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 121 | % | 70-135 | 01.14.20 06.47 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 01.14.20 06.47 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS104** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-023 | Date Collected: | 01.10.20 14.46 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.13.20 16.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 16.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.13.20 16.56 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.13.20 16.56 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS105** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-024 | Date Collected: | 01.10.20 14.49 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **25.5** | 10.0 | mg/kg | 01.13.20 19.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.14.20 07.06 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **76.4** | 50.3 | mg/kg | 01.14.20 07.06 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.14.20 07.06 | U | 1 |
| **Total GRO-DRO** | PHC628 | **76.4** | 50.3 | mg/kg | 01.14.20 07.06 | | 1 |
| **Total TPH** | PHC635 | **76.4** | 50.3 | mg/kg | 01.14.20 07.06 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 01.14.20 07.06 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 01.14.20 07.06 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS105** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-024 | Date Collected: | 01.10.20 14.49 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.13.20 17.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.13.20 17.15 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.13.20 17.15 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS106** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-025 | Date Collected: | 01.10.20 14.52 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.7** | 9.92 | mg/kg | 01.13.20 19.19 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.14.20 07.26 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **52.1** | 50.3 | mg/kg | 01.14.20 07.26 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.14.20 07.26 | U | 1 |
| **Total GRO-DRO** | PHC628 | **52.1** | 50.3 | mg/kg | 01.14.20 07.26 | | 1 |
| **Total TPH** | PHC635 | **52.1** | 50.3 | mg/kg | 01.14.20 07.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 125 | % | 70-135 | 01.14.20 07.26 | |
| o-Terphenyl | 84-15-1 | 120 | % | 70-135 | 01.14.20 07.26 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS106** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-025 | Date Collected: | 01.10.20 14.52 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.13.20 17.34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.13.20 17.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 01.13.20 17.34 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.13.20 17.34 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS107** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-026 | Date Collected: | 01.10.20 14.54 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **17.2** | 9.94 | mg/kg | 01.13.20 19.35 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.14.20 07.46 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **86.0** | 50.1 | mg/kg | 01.14.20 07.46 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.14.20 07.46 | U | 1 |
| **Total GRO-DRO** | PHC628 | **86.0** | 50.1 | mg/kg | 01.14.20 07.46 | | 1 |
| **Total TPH** | PHC635 | **86.0** | 50.1 | mg/kg | 01.14.20 07.46 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 116 | % | 70-135 | 01.14.20 07.46 | |
| o-Terphenyl | 84-15-1 | 115 | % | 70-135 | 01.14.20 07.46 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS107** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-026 | Date Collected: | 01.10.20 14.54 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.13.20 17.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.13.20 17.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.13.20 17.53 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.13.20 17.53 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS108** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-027 | Date Collected: | 01.10.20 14.58 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **24.4** | 9.98 | mg/kg | 01.13.20 19.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.14.20 08.46 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **368** | 50.1 | mg/kg | 01.14.20 08.46 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **65.5** | 50.1 | mg/kg | 01.14.20 08.46 | | 1 |
| **Total GRO-DRO** | PHC628 | **368** | 50.1 | mg/kg | 01.14.20 08.46 | | 1 |
| **Total TPH** | PHC635 | **434** | 50.1 | mg/kg | 01.14.20 08.46 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 117 | % | 70-135 | 01.14.20 08.46 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 01.14.20 08.46 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS108** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-027 | Date Collected: | 01.10.20 14.58 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0200 | 0.0200 | mg/kg | 01.13.20 18.50 | U | 10 |
| Toluene | 108-88-3 | <0.0200 | 0.0200 | mg/kg | 01.13.20 18.50 | U | 10 |
| Ethylbenzene | 100-41-4 | <0.0200 | 0.0200 | mg/kg | 01.13.20 18.50 | U | 10 |
| m,p-Xylenes | 179601-23-1 | <0.0399 | 0.0399 | mg/kg | 01.13.20 18.50 | U | 10 |
| **o-Xylene** | 95-47-6 | **0.0969** | 0.0200 | mg/kg | 01.13.20 18.50 | | 10 |
| **Total Xylenes** | 1330-20-7 | **0.0969** | 0.0200 | mg/kg | 01.13.20 18.50 | | 10 |
| **Total BTEX** | | **0.0969** | 0.0200 | mg/kg | 01.13.20 18.50 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 01.13.20 18.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 18.50 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-028 | Date Collected: | 01.10.20 14.59 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.4** | 9.92 | mg/kg | 01.13.20 19.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **392** | 50.3 | mg/kg | 01.14.20 13.07 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **3230** | 50.3 | mg/kg | 01.14.20 13.07 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **318** | 50.3 | mg/kg | 01.14.20 13.07 | | 1 |
| **Total GRO-DRO** | PHC628 | **3620** | 50.3 | mg/kg | 01.14.20 13.07 | | 1 |
| **Total TPH** | PHC635 | **3940** | 50.3 | mg/kg | 01.14.20 13.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 121 | % | 70-135 | 01.14.20 13.07 | |
| o-Terphenyl | 84-15-1 | 126 | % | 70-135 | 01.14.20 13.07 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-028 | Date Collected: | 01.10.20 14.59 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0202 | 0.0202 | mg/kg | 01.13.20 19.10 | U | 10 |
| Toluene | 108-88-3 | <0.0202 | 0.0202 | mg/kg | 01.13.20 19.10 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **0.0772** | 0.0202 | mg/kg | 01.13.20 19.10 | | 10 |
| **m,p-Xylenes** | 179601-23-1 | **0.116** | 0.0404 | mg/kg | 01.13.20 19.10 | | 10 |
| **o-Xylene** | 95-47-6 | **0.0497** | 0.0202 | mg/kg | 01.13.20 19.10 | | 10 |
| **Total Xylenes** | 1330-20-7 | **0.166** | 0.0202 | mg/kg | 01.13.20 19.10 | | 10 |
| **Total BTEX** | | **0.243** | 0.0202 | mg/kg | 01.13.20 19.10 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 01.13.20 19.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.13.20 19.10 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS110** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-029 | Date Collected: | 01.10.20 15.01 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **17.5** | 9.98 | mg/kg | 01.13.20 19.51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 10.06 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **172** | 50.2 | mg/kg | 01.14.20 10.06 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 10.06 | U | 1 |
| **Total GRO-DRO** | PHC628 | **172** | 50.2 | mg/kg | 01.14.20 10.06 | | 1 |
| **Total TPH** | PHC635 | **172** | 50.2 | mg/kg | 01.14.20 10.06 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.14.20 10.06 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 01.14.20 10.06 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS110** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-029 | Date Collected: | 01.10.20 15.01 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.13.20 18.12 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.13.20 18.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.13.20 18.12 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00433** | 0.00396 | mg/kg | 01.13.20 18.12 | | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.13.20 18.12 | U | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00433** | 0.00198 | mg/kg | 01.13.20 18.12 | | 1 |
| **Total BTEX** | | **0.00433** | 0.00198 | mg/kg | 01.13.20 18.12 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.13.20 18.12 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.13.20 18.12 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS111** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-030 | Date Collected: | 01.10.20 15.06 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 13.30 | Basis: | Wet Weight |
| Seq Number: | 3113138 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **77.4** | 9.96 | mg/kg | 01.13.20 19.57 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113145 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.14.20 10.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.14.20 10.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.14.20 10.26 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.14.20 10.26 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.14.20 10.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 116 | % | 70-135 | 01.14.20 10.26 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 01.14.20 10.26 | |

# Certificate of Analytical Results 648831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS111** | Matrix: | Soil | Date Received: | 01.13.20 12.40 |
| Lab Sample Id: | 648831-030 | Date Collected: | 01.10.20 15.06 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.13.20 17.30 | Basis: | Wet Weight |
| Seq Number: | 3113150 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.31 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.13.20 18.31 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00534** | 0.00400 | mg/kg | 01.13.20 18.31 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00531** | 0.00200 | mg/kg | 01.13.20 18.31 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0107** | 0.00200 | mg/kg | 01.13.20 18.31 | | 1 |
| **Total BTEX** | | **0.0107** | 0.00200 | mg/kg | 01.13.20 18.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.13.20 18.31 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.13.20 18.31 | |

# 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

# QC Summary 648831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113135 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694265-1-BLK — LCS Sample Id: 7694265-1-BKS — LCSD Sample Id: 7694265-1-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 | 251 | 100 | 90-110 | 0 | 20 | mg/kg | 01.13.20 15:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113138 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694270-1-BLK — LCS Sample Id: 7694270-1-BKS — 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 | 01.13.20 18:36 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113135 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648831-001 — MS Sample Id: 648831-001 S — MSD Sample Id: 648831-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 9.95 | 200 | 210 | 100 | 206 | 98 | 90-110 | 2 | 20 | mg/kg | 01.13.20 15:54 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113135 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648831-011 — MS Sample Id: 648831-011 S — MSD Sample Id: 648831-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 21.9 | 200 | 221 | 100 | 220 | 100 | 90-110 | 0 | 20 | mg/kg | 01.13.20 17:10 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113138 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648831-021 — MS Sample Id: 648831-021 S — 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 | 01.13.20 18:52 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 648831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3113138 Matrix: Soil Date Prep: 01.13.20
Parent Sample Id: 648878-001 MS Sample Id: 648878-001 S 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 | 01.13.20 20:09 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113090 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694241-1-BLK LCS Sample Id: 7694241-1-BKS LCSD Sample Id: 7694241-1-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 | 1280 | 128 | 1340 | 134 | 70-135 | 5 | 35 | mg/kg | 01.13.20 19:52 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1260 | 126 | 1320 | 132 | 70-135 | 5 | 35 | mg/kg | 01.13.20 19:52 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 106 | | 130 | | 116 | | 70-135 | % | 01.13.20 19:52 |
| o-Terphenyl | 107 | | 123 | | 112 | | 70-135 | % | 01.13.20 19:52 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113145 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694242-1-BLK LCS Sample Id: 7694242-1-BKS LCSD Sample Id: 7694242-1-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 | 1270 | 127 | 1280 | 128 | 70-135 | 1 | 35 | mg/kg | 01.14.20 04:49 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1280 | 128 | 1160 | 116 | 70-135 | 10 | 35 | mg/kg | 01.14.20 04:49 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 113 | | 134 | | 119 | | 70-135 | % | 01.14.20 04:49 |
| o-Terphenyl | 107 | | 122 | | 111 | | 70-135 | % | 01.14.20 04:49 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113090 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694241-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.13.20 19:32 | |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 648831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113145 Matrix: Solid Date Prep: 01.13.20
MB Sample Id: 7694242-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.14.20 04:29 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113090 Matrix: Soil Date Prep: 01.13.20
Parent Sample Id: 648831-001 MS Sample Id: 648831-001 S MSD Sample Id: 648831-001 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 | 793 | 79 | 801 | 79 | 70-135 | 1 | 35 | mg/kg | 01.13.20 20:52 | |
| Diesel Range Organics (DRO) | <50.2 | 1000 | 698 | 70 | 694 | 69 | 70-135 | 1 | 35 | mg/kg | 01.13.20 20:52 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 135 | | 133 | | 70-135 | % | 01.13.20 20:52 |
| o-Terphenyl | 119 | | 117 | | 70-135 | % | 01.13.20 20:52 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113145 Matrix: Soil Date Prep: 01.13.20
Parent Sample Id: 648831-021 MS Sample Id: 648831-021 S 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.2 | 1000 | 798 | 80 | 837 | 84 | 70-135 | 5 | 35 | mg/kg | 01.14.20 05:48 | |
| Diesel Range Organics (DRO) | <50.2 | 1000 | 714 | 71 | 746 | 75 | 70-135 | 4 | 35 | mg/kg | 01.14.20 05:48 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 133 | | 139 | ** | 70-135 | % | 01.14.20 05:48 |
| o-Terphenyl | 127 | | 131 | | 70-135 | % | 01.14.20 05:48 |

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

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

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

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

# QC Summary 648831

## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113104 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694256-1-BLK — LCS Sample Id: 7694256-1-BKS — LCSD Sample Id: 7694256-1-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 | 0.0933 | 93 | 0.0981 | 98 | 70-130 | 5 | 35 | mg/kg | 01.13.20 14:42 | |
| Toluene | <0.00200 | 0.100 | 0.0930 | 93 | 0.0978 | 98 | 70-130 | 5 | 35 | mg/kg | 01.13.20 14:42 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0910 | 91 | 0.0954 | 95 | 71-129 | 5 | 35 | mg/kg | 01.13.20 14:42 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.188 | 94 | 0.197 | 99 | 70-135 | 5 | 35 | mg/kg | 01.13.20 14:42 | |
| o-Xylene | <0.00200 | 0.100 | 0.0921 | 92 | 0.0962 | 96 | 71-133 | 4 | 35 | mg/kg | 01.13.20 14:42 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 98 | | 99 | | 70-130 | % | 01.13.20 14:42 |
| 4-Bromofluorobenzene | 102 | | 98 | | 98 | | 70-130 | % | 01.13.20 14:42 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113150 — Matrix: Solid — Date Prep: 01.13.20
MB Sample Id: 7694257-1-BLK — LCS Sample Id: 7694257-1-BKS — 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 | 01.13.20 14:42 | |
| Toluene | <0.00200 | 0.100 | 0.0923 | 92 | 0.103 | 103 | 70-130 | 11 | 35 | mg/kg | 01.13.20 14:42 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0928 | 93 | 0.104 | 104 | 71-129 | 11 | 35 | mg/kg | 01.13.20 14:42 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.185 | 93 | 0.209 | 105 | 70-135 | 12 | 35 | mg/kg | 01.13.20 14:42 | |
| o-Xylene | <0.00200 | 0.100 | 0.0923 | 92 | 0.104 | 104 | 71-133 | 12 | 35 | mg/kg | 01.13.20 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 | % | 01.13.20 14:42 |
| 4-Bromofluorobenzene | 106 | | 98 | | 106 | | 70-130 | % | 01.13.20 14:42 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113104 — Matrix: Soil — Date Prep: 01.13.20
Parent Sample Id: 648831-001 — MS Sample Id: 648831-001 S — MSD Sample Id: 648831-001 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 | 0.102 | 102 | 0.0921 | 92 | 70-130 | 10 | 35 | mg/kg | 01.13.20 15:17 | |
| Toluene | <0.00200 | 0.100 | 0.101 | 101 | 0.0918 | 92 | 70-130 | 10 | 35 | mg/kg | 01.13.20 15:17 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0975 | 98 | 0.0882 | 88 | 71-129 | 10 | 35 | mg/kg | 01.13.20 15:17 | |
| m,p-Xylenes | <0.00401 | 0.200 | 0.201 | 101 | 0.181 | 91 | 70-135 | 10 | 35 | mg/kg | 01.13.20 15:17 | |
| o-Xylene | <0.00200 | 0.100 | 0.0972 | 97 | 0.0880 | 88 | 71-133 | 10 | 35 | mg/kg | 01.13.20 15:17 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 99 | | 70-130 | % | 01.13.20 15:17 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 | % | 01.13.20 15:17 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 648831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3113150 Matrix: Soil Date Prep: 01.13.20

Parent Sample Id: 648831-021 MS Sample Id: 648831-021 S 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 | 01.13.20 15:21 | |
| Toluene | <0.00202 | 0.101 | 0.0899 | 89 | 0.105 | 105 | 70-130 | 15 | 35 | mg/kg | 01.13.20 15:21 | |
| Ethylbenzene | <0.00202 | 0.101 | 0.0843 | 83 | 0.104 | 104 | 71-129 | 21 | 35 | mg/kg | 01.13.20 15:21 | |
| m,p-Xylenes | <0.00405 | 0.202 | 0.167 | 83 | 0.206 | 103 | 70-135 | 21 | 35 | mg/kg | 01.13.20 15:21 | |
| o-Xylene | <0.00202 | 0.101 | 0.0826 | 82 | 0.116 | 116 | 71-133 | 34 | 35 | mg/kg | 01.13.20 15:21 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 104 | | 70-130 | % | 01.13.20 15:21 |
| 4-Bromofluorobenzene | 100 | | 108 | | 70-130 | % | 01.13.20 15:21 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# Chain of Custody

XENCO LABORATORIES
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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 (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
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Work Order No: ~~648830~~ 648831



| | | | |
|---|---|---|---|
| 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 ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 2-day | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 1.0 | Thermometer ID | |
| Received Intact: | (Yes) No | TNM007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 30 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS82 | s | 1/10/2020 | 12:51 | 4' | 1 | x | x | x | Composite |
| FS83 | s | 1/10/2020 | 12:54 | 4' | 1 | x | x | x | Composite |
| FS84 | s | 1/10/2020 | 13:00 | 3.5' | 1 | x | x | x | Composite |
| FS85 | s | 1/10/2020 | 13:03 | 3.5' | 1 | x | x | x | Composite |
| FS86 | s | 1/10/2020 | 13:06 | 3.5' | 1 | x | x | x | Composite |
| FS87 | s | 1/10/2020 | 13:09 | 4' | 1 | x | x | x | Composite |
| FS88 | s | 1/10/2020 | 13:15 | 4' | 1 | x | x | x | Composite |
| FS89 | s | 1/10/2020 | 13:18 | 4' | 1 | x | x | x | Composite |
| FS90 | s | 1/10/2020 | 13:21 | 4' | 1 | x | x | x | Composite |
| FS91 | s | 1/10/2020 | 13:35 | 4' | 1 | x | x | x | Composite |

ANALYSIS REQUEST

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|---|
| 1 | | | 1/13/20 12:00pm | 2 | | 1/13/20 12:40 |
| | | | | 4 | | |
| | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/7/2020 1:28:56 PM

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# Chain of Custody

Work Order No: 648831

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 2-day | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No | |
| Temperature (°C): | | Thermometer ID | S20 IR5 | |
| Received Intact: | Yes No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS92 | s | 1/10/2020 | 13:39 | 4' | 1 | x | x | x | Composite |
| FS93 | s | 1/10/2020 | 13:42 | 4' | 1 | x | x | x | Composite |
| FS94 | s | 1/10/2020 | 13:46 | 4' | 1 | x | x | x | Composite |
| FS95 | s | 1/10/2020 | 14:03 | 4' | 1 | x | x | x | Composite |
| FS96 | s | 1/10/2020 | 14:06 | 4' | 1 | x | x | x | Composite |
| FS97 | s | 1/10/2020 | 14:09 | 4' | 1 | x | x | x | Composite |
| FS98 | s | 1/10/2020 | 14:10 | 4' | 1 | x | x | x | Composite |
| FS99 | s | 1/10/2020 | 14:11 | 4' | 1 | x | x | x | Composite |
| FS100 | s | 1/10/2020 | 14:14 | 4' | 1 | x | x | x | Composite |
| FS101 | s | 1/10/2020 | 14:18 | 4' | 1 | x | x | x | Composite |

**ANALYSIS REQUEST**

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/13/20 12:00pm | 2 | | 1/13/20 12:40 |
| | | | 4 | | |
| | | | 6 | | |

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# Chain of Custody

Work Order No: 648831

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine ☐ | |
| P.O. Number: | Lea | Rush: 2-day | |
| Sampler's Name: | William Mather | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS102 | s | 1/10/2020 | 14:21 | 4' | 1 | x | x | x | Composite |
| FS103 | s | 1/10/2020 | 14:30 | 4' | 1 | x | x | x | Composite |
| FS104 | s | 1/10/2020 | 14:46 | 4' | 1 | x | x | x | Composite |
| FS105 | s | 1/10/2020 | 14:49 | 4' | 1 | x | x | x | Composite |
| FS106 | s | 1/10/2020 | 14:52 | 4' | 1 | x | x | x | Composite |
| FS107 | s | 1/10/2020 | 14:54 | 4' | 1 | x | x | x | Composite |
| FS108 | s | 1/10/2020 | 14:58 | 4' | 1 | x | x | x | Composite |
| FS109 | s | 1/10/2020 | 14:59 | 4' | 1 | x | x | x | Composite |
| FS110 | s | 1/10/2020 | 15:01 | 4' | 1 | x | x | x | Composite |
| FS111 | s | 1/10/2020 | 15:06 | 4' | 1 | x | x | x | Composite |

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/13/20 12:00pm | 2 | | 1/13/20 12:40 |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01.13.2020 12.40.00 PM

**Work Order #:** 648831

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01.13.2020

**Checklist reviewed by:** Jessica Kramer Date: 01.13.2020

Jessica Kramer

# Analytical Report 649025

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**1RP-5694**

**16-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)

16-JAN-20

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

Reference: XENCO Report No(s): **649025**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 649025. 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. 649025 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SW26 | S | 01-14-20 10:00 | 1 - 4 ft | 649025-001 |
| SW27 | S | 01-14-20 10:05 | 1 - 4 ft | 649025-002 |
| SW28 | S | 01-14-20 10:10 | 1 - 4 ft | 649025-003 |
| SW29 | S | 01-14-20 10:35 | 1 - 4 ft | 649025-004 |
| SW30 | S | 01-14-20 10:40 | 1 - 4 ft | 649025-005 |
| SW31 | S | 01-14-20 10:45 | 1 - 4 ft | 649025-006 |
| SW32 | S | 01-14-20 10:50 | 1 - 4 ft | 649025-007 |
| SW33 | S | 01-14-20 10:55 | 1 - 4 ft | 649025-008 |
| SW34 | S | 01-14-20 11:15 | 1 - 4 ft | 649025-009 |
| SW35 | S | 01-14-20 11:20 | 1 - 4 ft | 649025-010 |
| SW36 | S | 01-14-20 11:25 | 1 - 4 ft | 649025-011 |
| SW37 | S | 01-14-20 11:30 | 1 - 4 ft | 649025-012 |
| SW38 | S | 01-14-20 11:35 | 1 - 4 ft | 649025-013 |
| SW39 | S | 01-14-20 11:55 | 1 - 4 ft | 649025-014 |
| SW40 | S | 01-14-20 12:00 | 1 - 4 ft | 649025-015 |
| SW41 | S | 01-14-20 12:05 | 1 - 4 ft | 649025-016 |
| SW42 | S | 01-14-20 12:10 | 1 - 4 ft | 649025-017 |
| SW43 | S | 01-14-20 12:15 | 1 - 4 ft | 649025-018 |
| SW44 | S | 01-14-20 12:55 | 1 - 4 ft | 649025-019 |
| SW45 | S | 01-14-20 13:00 | 1 - 4 ft | 649025-020 |
| SW46 | S | 01-14-20 13:05 | 1 - 4 ft | 649025-021 |
| SW47 | S | 01-14-20 13:10 | 1 - 4 ft | 649025-022 |
| SW48 | S | 01-14-20 13:25 | 1 - 4 ft | 649025-023 |
| SW49 | S | 01-14-20 13:30 | 1 - 4 ft | 649025-024 |
| SW50 | S | 01-14-20 13:35 | 1 - 4 ft | 649025-025 |
| SW51 | S | 01-14-20 13:40 | 1 - 4 ft | 649025-026 |
| SW52 | S | 01-14-20 14:00 | 1 - 4 ft | 649025-027 |
| SW53 | S | 01-14-20 14:05 | 1 - 4 ft | 649025-028 |
| SW54 | S | 01-14-20 14:10 | 1 - 4 ft | 649025-029 |
| SW55 | S | 01-14-20 14:15 | 1 - 4 ft | 649025-030 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: EMSU CTB***

Project ID: *1RP-5694*
Work Order Number(s): *649025*

Report Date: *16-JAN-20*
Date Received: *01/14/2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3113259 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3113284 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3113342 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649025-005,649025-007,649025-009,649025-011.
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649025-005,649025-010,649025-001.

Batch: LBA-3113359 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649025-015,649025-017,649025-016.
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649025-019,649025-017,649025-016,649025-024,649025-015.

# Certificate of Analysis Summary 649025

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 1RP-5694
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Jan-14-20 04:30 pm
**Report Date:** 16-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649025-001 | | 649025-002 | | 649025-003 | | 649025-004 | | 649025-005 | | 649025-006 | |
| | ***Field Id:*** | SW26 | | SW27 | | SW28 | | SW29 | | SW30 | | SW31 | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-14-20 10:00 | | Jan-14-20 10:05 | | Jan-14-20 10:10 | | Jan-14-20 10:35 | | Jan-14-20 10:40 | | Jan-14-20 10:45 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | |
| | ***Analyzed:*** | Jan-15-20 03:54 | | Jan-15-20 04:13 | | Jan-15-20 04:32 | | Jan-15-20 04:52 | | Jan-15-20 05:11 | | Jan-15-20 06:15 | |
| | ***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 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00397 | 0.00397 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.0114 | 0.00199 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.0114 | 0.00199 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.0114 | 0.00199 | <0.00198 | 0.00198 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | |
| | ***Analyzed:*** | Jan-14-20 21:59 | | Jan-14-20 22:05 | | Jan-14-20 22:10 | | Jan-14-20 22:54 | | Jan-14-20 22:59 | | Jan-14-20 23:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | <10.0 | 10.0 | <10.0 | 10.0 | 16.1 | 9.92 | <9.94 | 9.94 | <9.92 | 9.92 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 09:46 | | Jan-15-20 18:00 | |
| | ***Analyzed:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | Jan-15-20 18:05 | | ** ** ** ** | | ** ** ** ** | |
| | ***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 | <50.3 | 50.3 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <50.3 | 50.3 | 302 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <50.3 | 50.3 | <50.1 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.1 | 50.1 | <50.2 | 50.2 | <50.3 | 50.3 | 302 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 |
| Total TPH | | <50.1 | 50.1 | <50.2 | 50.2 | <50.3 | 50.3 | 302 | 50.1 | <50.0 | 50.0 | <50.2 | 50.2 |

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The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 649025

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 1RP-5694
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Jan-14-20 04:30 pm
**Report Date:** 16-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649025-007 | | 649025-008 | | 649025-009 | | 649025-010 | | 649025-011 | | 649025-012 | |
| | ***Field Id:*** | SW32 | | SW33 | | SW34 | | SW35 | | SW36 | | SW37 | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-14-20 10:50 | | Jan-14-20 10:55 | | Jan-14-20 11:15 | | Jan-14-20 11:20 | | Jan-14-20 11:25 | | Jan-14-20 11:30 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | |
| | ***Analyzed:*** | Jan-15-20 06:34 | | Jan-15-20 06:53 | | Jan-15-20 07:13 | | Jan-15-20 07:32 | | Jan-15-20 07:51 | | Jan-15-20 08:10 | |
| | ***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 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00397 | 0.00397 | <0.00398 | 0.00398 | <0.00401 | 0.00401 | <0.00399 | 0.00399 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:03 | |
| | ***Analyzed:*** | Jan-14-20 23:10 | | Jan-14-20 23:15 | | Jan-14-20 23:32 | | Jan-14-20 23:37 | | Jan-14-20 23:42 | | Jan-14-20 23:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | <10.0 | 10.0 | <10.0 | 10.0 | <10.0 | 10.0 | <10.1 | 10.1 | <9.98 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-15-20 18:00 | |
| | ***Analyzed:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***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 | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 | <50.3 | 50.3 | <49.9 | 49.9 | <50.2 | 50.2 |
| Total TPH | | <50.1 | 50.1 | <50.2 | 50.2 | <50.2 | 50.2 | <50.3 | 50.3 | <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.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 649025

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 1RP-5694
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Jan-14-20 04:30 pm
**Report Date:** 16-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649025-013 | | 649025-014 | | 649025-015 | | 649025-016 | | 649025-017 | | 649025-018 | |
| | ***Field Id:*** | SW38 | | SW39 | | SW40 | | SW41 | | SW42 | | SW43 | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-14-20 11:35 | | Jan-14-20 11:55 | | Jan-14-20 12:00 | | Jan-14-20 12:05 | | Jan-14-20 12:10 | | Jan-14-20 12:15 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:35 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | |
| | ***Analyzed:*** | Jan-15-20 08:29 | | Jan-15-20 08:48 | | Jan-15-20 09:07 | | Jan-14-20 22:18 | | Jan-14-20 22:35 | | Jan-14-20 22:53 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00397 | 0.00397 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-14-20 17:03 | | Jan-14-20 17:03 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | |
| | ***Analyzed:*** | Jan-14-20 23:53 | | Jan-14-20 23:58 | | Jan-15-20 00:31 | | Jan-15-20 00:47 | | Jan-15-20 00:52 | | Jan-15-20 00:58 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | <9.94 | 9.94 | <9.98 | 9.98 | <10.0 | 10.0 | <10.0 | 10.0 | <9.92 | 9.92 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-15-20 18:00 | | Jan-15-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | |
| | ***Analyzed:*** | ** ** ** ** | | ** ** ** ** | | Jan-15-20 04:57 | | Jan-15-20 05:38 | | Jan-15-20 05:38 | | Jan-15-20 18:05 | |
| | ***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 | <49.8 | 49.8 | <50.1 | 50.1 | <49.9 | 49.9 | <50.3 | 50.3 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | <49.9 | 49.9 | <50.3 | 50.3 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | <49.9 | 49.9 | <50.3 | 50.3 |
| Total GRO-DRO | | <50.2 | 50.2 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | <49.9 | 49.9 | <50.3 | 50.3 |
| Total TPH | | <50.2 | 50.2 | <50.2 | 50.2 | <49.8 | 49.8 | <50.1 | 50.1 | <49.9 | 49.9 | <50.3 | 50.3 |

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 649025

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 1RP-5694
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Jan-14-20 04:30 pm
**Report Date:** 16-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649025-019 | | 649025-020 | | 649025-021 | | 649025-022 | | 649025-023 | | 649025-024 | |
| | ***Field Id:*** | SW44 | | SW45 | | SW46 | | SW47 | | SW48 | | SW49 | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-14-20 12:55 | | Jan-14-20 13:00 | | Jan-14-20 13:05 | | Jan-14-20 13:10 | | Jan-14-20 13:25 | | Jan-14-20 13:30 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | |
| | ***Analyzed:*** | Jan-14-20 23:10 | | Jan-14-20 23:28 | | Jan-14-20 23:45 | | Jan-15-20 00:02 | | Jan-15-20 00:20 | | Jan-15-20 00:37 | |
| | ***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 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Toluene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00397 | 0.00397 | <0.00401 | 0.00401 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | |
| | ***Analyzed:*** | Jan-15-20 01:14 | | Jan-15-20 01:19 | | Jan-15-20 01:24 | | Jan-15-20 01:30 | | Jan-15-20 01:35 | | Jan-15-20 01:41 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.88 | 9.88 | <9.88 | 9.88 | <9.92 | 9.92 | <9.88 | 9.88 | <9.88 | 9.88 | <9.98 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | |
| | ***Analyzed:*** | Jan-15-20 05:58 | | Jan-15-20 19:28 | | Jan-15-20 06:18 | | Jan-15-20 06:38 | | Jan-15-20 06:38 | | Jan-15-20 06:58 | |
| | ***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 | <49.8 | 49.8 | <49.8 | 49.8 | <50.3 | 50.3 | <50.3 | 50.3 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <49.8 | 49.8 | <49.8 | 49.8 | <50.3 | 50.3 | <50.3 | 50.3 | <49.8 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <49.8 | 49.8 | <49.8 | 49.8 | <50.3 | 50.3 | <50.3 | 50.3 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.1 | 50.1 | <49.8 | 49.8 | <49.8 | 49.8 | <50.3 | 50.3 | <50.3 | 50.3 | <49.8 | 49.8 |
| Total TPH | | <50.1 | 50.1 | <49.8 | 49.8 | <49.8 | 49.8 | <50.3 | 50.3 | <50.3 | 50.3 | <49.8 | 49.8 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 649025

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 1RP-5694
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Jan-14-20 04:30 pm
**Report Date:** 16-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649025-025 | | 649025-026 | | 649025-027 | | 649025-028 | | 649025-029 | | 649025-030 | |
| | ***Field Id:*** | SW50 | | SW51 | | SW52 | | SW53 | | SW54 | | SW55 | |
| | ***Depth:*** | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | | 1-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jan-14-20 13:35 | | Jan-14-20 13:40 | | Jan-14-20 14:00 | | Jan-14-20 14:05 | | Jan-14-20 14:10 | | Jan-14-20 14:15 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | | Jan-14-20 17:39 | |
| | ***Analyzed:*** | Jan-15-20 01:46 | | Jan-15-20 02:04 | | Jan-15-20 02:21 | | Jan-15-20 02:39 | | Jan-15-20 02:56 | | Jan-14-20 22:01 | |
| | ***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 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | 0.00234 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00401 | 0.00401 | <0.00400 | 0.00400 | <0.00404 | 0.00404 | <0.00399 | 0.00399 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | 0.00234 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | | Jan-14-20 17:11 | |
| | ***Analyzed:*** | Jan-15-20 01:46 | | Jan-15-20 02:02 | | Jan-15-20 02:07 | | Jan-15-20 02:24 | | Jan-15-20 02:29 | | Jan-15-20 02:34 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.96 | 9.96 | 10.3 | 9.96 | 23.9 | 9.98 | 33.0 | 9.96 | 19.3 | 9.98 | 23.7 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | | Jan-14-20 18:00 | |
| | ***Analyzed:*** | Jan-15-20 07:18 | | Jan-15-20 07:18 | | Jan-15-20 07:38 | | Jan-15-20 07:58 | | Jan-15-20 19:51 | | Jan-15-20 19:28 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <50.2 | 50.2 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.0 | 50.0 | 62.2 | 50.2 | 102 | 49.9 | 874 | 50.2 | 61.9 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <50.2 | 50.2 | <49.9 | 49.9 | 136 | 50.2 | <50.1 | 50.1 |
| Total GRO-DRO | | <50.0 | 50.0 | <50.0 | 50.0 | 62.2 | 50.2 | 102 | 49.9 | 874 | 50.2 | 61.9 | 50.1 |
| Total TPH | | <50.0 | 50.0 | <50.0 | 50.0 | 62.2 | 50.2 | 102 | 49.9 | 1010 | 50.2 | 61.9 | 50.1 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW26** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-001 | Date Collected: | 01.14.20 10.00 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.14.20 21.59 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 12.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.15.20 12.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 12.40 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.15.20 12.40 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.15.20 12.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 133 | % | 70-135 | 01.15.20 12.40 | |
| o-Terphenyl | 84-15-1 | 141 | % | 70-135 | 01.15.20 12.40 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW26** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-001 | Date Collected: | 01.14.20 10.00 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 03.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 03.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 01.15.20 03.54 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.15.20 03.54 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW27** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-002 | Date Collected: | 01.14.20 10.05 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.14.20 22.05 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 01.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 01.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 01.56 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 01.56 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 01.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.15.20 01.56 | |
| o-Terphenyl | 84-15-1 | 134 | % | 70-135 | 01.15.20 01.56 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW27** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-002 | Date Collected: | 01.14.20 10.05 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.15.20 04.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.15.20 04.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 04.13 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 01.15.20 04.13 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW28** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-003 | Date Collected: | 01.14.20 10.10 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.14.20 22.10 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.15.20 17.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.15.20 17.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.15.20 17.42 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.15.20 17.42 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.15.20 17.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 01.15.20 17.42 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 01.15.20 17.42 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW28** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-003 | Date Collected: | 01.14.20 10.10 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 04.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.15.20 04.32 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 01.15.20 04.32 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW29** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-004 | Date Collected: | 01.14.20 10.35 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.1** | 9.92 | mg/kg | 01.14.20 22.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 18.05 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **302** | 50.1 | mg/kg | 01.15.20 18.05 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 18.05 | U | 1 |
| **Total GRO-DRO** | PHC628 | **302** | 50.1 | mg/kg | 01.15.20 18.05 | | 1 |
| **Total TPH** | PHC635 | **302** | 50.1 | mg/kg | 01.15.20 18.05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 01.15.20 18.05 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 01.15.20 18.05 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW29** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-004 | Date Collected: | 01.14.20 10.35 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 04.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 04.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.15.20 04.52 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.15.20 04.52 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW30** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-005 | Date Collected: | 01.14.20 10.40 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 01.14.20 22.59 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 09.46 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.15.20 02.37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.15.20 02.37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.15.20 02.37 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.15.20 02.37 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.15.20 02.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 140 | % | 70-135 | 01.15.20 02.37 | ** |
| o-Terphenyl | 84-15-1 | 144 | % | 70-135 | 01.15.20 02.37 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW30** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-005 | Date Collected: | 01.14.20 10.40 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.15.20 05.11 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.15.20 05.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.15.20 05.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.15.20 05.11 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.0114** | 0.00199 | mg/kg | 01.15.20 05.11 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0114** | 0.00199 | mg/kg | 01.15.20 05.11 | | 1 |
| **Total BTEX** | | **0.0114** | 0.00199 | mg/kg | 01.15.20 05.11 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 05.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 01.15.20 05.11 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW31** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-006 | Date Collected: | 01.14.20 10.45 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.14.20 23.05 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 02.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 02.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 02.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 02.57 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 02.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 133 | % | 70-135 | 01.15.20 02.57 | |
| o-Terphenyl | 84-15-1 | 133 | % | 70-135 | 01.15.20 02.57 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW31** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-006 | Date Collected: | 01.14.20 10.45 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.15.20 06.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.15.20 06.15 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 01.15.20 06.15 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW32** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-007 | Date Collected: | 01.14.20 10.50 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.14.20 23.10 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 02.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.15.20 02.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 02.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.15.20 02.57 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.15.20 02.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 140 | % | 70-135 | 01.15.20 02.57 | ** |
| o-Terphenyl | 84-15-1 | 135 | % | 70-135 | 01.15.20 02.57 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW32** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-007 | Date Collected: | 01.14.20 10.50 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.15.20 06.34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 06.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.15.20 06.34 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.15.20 06.34 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW33** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-008 | Date Collected: | 01.14.20 10.55 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.14.20 23.15 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.15.20 03.17 | |
| o-Terphenyl | 84-15-1 | 133 | % | 70-135 | 01.15.20 03.17 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW33** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-008 | Date Collected: | 01.14.20 10.55 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.15.20 06.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.15.20 06.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.15.20 06.53 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 06.53 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW34** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-009 | Date Collected: | 01.14.20 11.15 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.14.20 23.32 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 03.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 140 | % | 70-135 | 01.15.20 03.17 | ** |
| o-Terphenyl | 84-15-1 | 134 | % | 70-135 | 01.15.20 03.17 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW34** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-009 | Date Collected: | 01.14.20 11.15 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.15.20 07.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.15.20 07.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.15.20 07.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.15.20 07.13 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW35** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-010 | Date Collected: | 01.14.20 11.20 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.14.20 23.37 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.15.20 03.37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.15.20 03.37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.15.20 03.37 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.15.20 03.37 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.15.20 03.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 135 | % | 70-135 | 01.15.20 03.37 | |
| o-Terphenyl | 84-15-1 | 137 | % | 70-135 | 01.15.20 03.37 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW35** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-010 | Date Collected: | 01.14.20 11.20 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.15.20 07.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.15.20 07.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.15.20 07.32 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW36** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-011 | Date Collected: | 01.14.20 11.25 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.14.20 23.42 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.15.20 03.37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.15.20 03.37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.15.20 03.37 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.15.20 03.37 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.15.20 03.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 138 | % | 70-135 | 01.15.20 03.37 | ** |
| o-Terphenyl | 84-15-1 | 135 | % | 70-135 | 01.15.20 03.37 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW36** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-011 | Date Collected: | 01.14.20 11.25 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 07.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 07.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 01.15.20 07.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 01.15.20 07.51 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW37** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-012 | Date Collected: | 01.14.20 11.30 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.14.20 23.48 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.15.20 03.57 | |
| o-Terphenyl | 84-15-1 | 134 | % | 70-135 | 01.15.20 03.57 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW37** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-012 | Date Collected: | 01.14.20 11.30 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.15.20 08.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 01.15.20 08.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.15.20 08.10 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW38** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-013 | Date Collected: | 01.14.20 11.35 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.14.20 23.53 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 03.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 133 | % | 70-135 | 01.15.20 03.57 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 01.15.20 03.57 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW38** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-013 | Date Collected: | 01.14.20 11.35 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.15.20 08.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.15.20 08.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.15.20 08.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 08.29 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW39** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-014 | Date Collected: | 01.14.20 11.55 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.03 | Basis: | Wet Weight |
| Seq Number: | 3113245 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 01.14.20 23.58 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.15.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113342 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 04.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.15.20 04.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 04.17 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.15.20 04.17 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.15.20 04.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.15.20 04.17 | |
| o-Terphenyl | 84-15-1 | 131 | % | 70-135 | 01.15.20 04.17 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW39** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-014 | Date Collected: | 01.14.20 11.55 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 08.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 08.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 01.15.20 08.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 08.48 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW40** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-015 | Date Collected: | 01.14.20 12.00 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.15.20 00.31 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.15.20 04.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.15.20 04.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.15.20 04.57 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.15.20 04.57 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.15.20 04.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 142 | % | 70-135 | 01.15.20 04.57 | ** |
| o-Terphenyl | 84-15-1 | 144 | % | 70-135 | 01.15.20 04.57 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW40** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-015 | Date Collected: | 01.14.20 12.00 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.35 | Basis: | Wet Weight |
| Seq Number: | 3113259 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.15.20 09.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.15.20 09.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.15.20 09.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 01.15.20 09.07 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW41** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-016 | Date Collected: | 01.14.20 12.05 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.15.20 00.47 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 05.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.15.20 05.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 05.38 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.15.20 05.38 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.15.20 05.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 136 | % | 70-135 | 01.15.20 05.38 | ** |
| o-Terphenyl | 84-15-1 | 141 | % | 70-135 | 01.15.20 05.38 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW41** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-016 | Date Collected: | 01.14.20 12.05 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.14.20 22.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.14.20 22.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.14.20 22.18 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW42** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-017 | Date Collected: | 01.14.20 12.10 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.15.20 00.52 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.15.20 05.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.15.20 05.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.15.20 05.38 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.15.20 05.38 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.15.20 05.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 136 | % | 70-135 | 01.15.20 05.38 | ** |
| o-Terphenyl | 84-15-1 | 140 | % | 70-135 | 01.15.20 05.38 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW42** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-017 | Date Collected: | 01.14.20 12.10 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.14.20 22.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.14.20 22.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.14.20 22.35 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW43** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-018 | Date Collected: | 01.14.20 12.15 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.15.20 00.58 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.15.20 18.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.15.20 18.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.15.20 18.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.15.20 18.05 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.15.20 18.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 01.15.20 18.05 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 01.15.20 18.05 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW43** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-018 | Date Collected: | 01.14.20 12.15 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.14.20 22.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.14.20 22.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.14.20 22.53 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.14.20 22.53 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW44** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-019 | Date Collected: | 01.14.20 12.55 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 01.15.20 01.14 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 05.58 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.15.20 05.58 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 05.58 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.15.20 05.58 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.15.20 05.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 134 | % | 70-135 | 01.15.20 05.58 | |
| o-Terphenyl | 84-15-1 | 138 | % | 70-135 | 01.15.20 05.58 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW44** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-019 | Date Collected: | 01.14.20 12.55 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.14.20 23.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.14.20 23.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.14.20 23.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.14.20 23.10 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW45** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-020 | Date Collected: | 01.14.20 13.00 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 01.15.20 01.19 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.15.20 19.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.15.20 19.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.15.20 19.28 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.15.20 19.28 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.15.20 19.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 01.15.20 19.28 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 01.15.20 19.28 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW45** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-020 | Date Collected: | 01.14.20 13.00 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.14.20 23.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 01.14.20 23.28 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.14.20 23.28 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW46** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-021 | Date Collected: | 01.14.20 13.05 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.15.20 01.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.15.20 06.18 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.15.20 06.18 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.15.20 06.18 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.15.20 06.18 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.15.20 06.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 134 | % | 70-135 | 01.15.20 06.18 | |
| o-Terphenyl | 84-15-1 | 135 | % | 70-135 | 01.15.20 06.18 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW46** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-021 | Date Collected: | 01.14.20 13.05 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.14.20 23.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.14.20 23.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.14.20 23.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.14.20 23.45 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW47** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-022 | Date Collected: | 01.14.20 13.10 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 01.15.20 01.30 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 131 | % | 70-135 | 01.15.20 06.38 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 01.15.20 06.38 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW47** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-022 | Date Collected: | 01.14.20 13.10 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 01.15.20 00.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.15.20 00.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.15.20 00.02 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.15.20 00.02 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW48** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-023 | Date Collected: | 01.14.20 13.25 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 01.15.20 01.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 01.15.20 06.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 134 | % | 70-135 | 01.15.20 06.38 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 01.15.20 06.38 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW48** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-023 | Date Collected: | 01.14.20 13.25 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.15.20 00.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 00.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.15.20 00.20 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.15.20 00.20 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW49** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-024 | Date Collected: | 01.14.20 13.30 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 01.15.20 01.41 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.15.20 06.58 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.15.20 06.58 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.15.20 06.58 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.15.20 06.58 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.15.20 06.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 133 | % | 70-135 | 01.15.20 06.58 | |
| o-Terphenyl | 84-15-1 | 136 | % | 70-135 | 01.15.20 06.58 | ** |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW49** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-024 | Date Collected: | 01.14.20 13.30 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.15.20 00.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.15.20 00.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.15.20 00.37 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.15.20 00.37 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW50** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-025 | Date Collected: | 01.14.20 13.35 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.96 | 9.96 | mg/kg | 01.15.20 01.46 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 134 | % | 70-135 | 01.15.20 07.18 | |
| o-Terphenyl | 84-15-1 | 133 | % | 70-135 | 01.15.20 07.18 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW50** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-025 | Date Collected: | 01.14.20 13.35 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 01.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 01.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.15.20 01.46 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.15.20 01.46 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW51** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-026 | Date Collected: | 01.14.20 13.40 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.3** | 9.96 | mg/kg | 01.15.20 02.02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.15.20 07.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 126 | % | 70-135 | 01.15.20 07.18 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 01.15.20 07.18 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW51** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-026 | Date Collected: | 01.14.20 13.40 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 01.15.20 02.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.15.20 02.04 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.15.20 02.04 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW52** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-027 | Date Collected: | 01.14.20 14.00 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.9** | 9.98 | mg/kg | 01.15.20 02.07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 07.38 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **62.2** | 50.2 | mg/kg | 01.15.20 07.38 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.15.20 07.38 | U | 1 |
| **Total GRO-DRO** | PHC628 | **62.2** | 50.2 | mg/kg | 01.15.20 07.38 | | 1 |
| **Total TPH** | PHC635 | **62.2** | 50.2 | mg/kg | 01.15.20 07.38 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.15.20 07.38 | |
| o-Terphenyl | 84-15-1 | 132 | % | 70-135 | 01.15.20 07.38 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW52** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-027 | Date Collected: | 01.14.20 14.00 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.15.20 02.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.15.20 02.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 01.15.20 02.21 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW53** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-028 | Date Collected: | 01.14.20 14.05 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.0** | 9.96 | mg/kg | 01.15.20 02.24 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.15.20 07.58 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **102** | 49.9 | mg/kg | 01.15.20 07.58 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.15.20 07.58 | U | 1 |
| **Total GRO-DRO** | PHC628 | **102** | 49.9 | mg/kg | 01.15.20 07.58 | | 1 |
| **Total TPH** | PHC635 | **102** | 49.9 | mg/kg | 01.15.20 07.58 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 01.15.20 07.58 | |
| o-Terphenyl | 84-15-1 | 129 | % | 70-135 | 01.15.20 07.58 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW53** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-028 | Date Collected: | 01.14.20 14.05 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.15.20 02.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.15.20 02.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.15.20 02.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.15.20 02.39 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW54** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-029 | Date Collected: | 01.14.20 14.10 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.3** | 9.98 | mg/kg | 01.15.20 02.29 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.15.20 19.51 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **874** | 50.2 | mg/kg | 01.15.20 19.51 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **136** | 50.2 | mg/kg | 01.15.20 19.51 | | 1 |
| **Total GRO-DRO** | PHC628 | **874** | 50.2 | mg/kg | 01.15.20 19.51 | | 1 |
| **Total TPH** | PHC635 | **1010** | 50.2 | mg/kg | 01.15.20 19.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 01.15.20 19.51 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 01.15.20 19.51 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW54** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-029 | Date Collected: | 01.14.20 14.10 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.56 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.56 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00234** | 0.00200 | mg/kg | 01.15.20 02.56 | | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.15.20 02.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.15.20 02.56 | U | 1 |
| **Total BTEX** | | **0.00234** | 0.00200 | mg/kg | 01.15.20 02.56 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.15.20 02.56 | |
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.15.20 02.56 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW55** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-030 | Date Collected: | 01.14.20 14.15 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.11 | Basis: | Wet Weight |
| Seq Number: | 3113250 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.7** | 9.98 | mg/kg | 01.15.20 02.34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.14.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3113359 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.15.20 19.28 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **61.9** | 50.1 | mg/kg | 01.15.20 19.28 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.15.20 19.28 | U | 1 |
| **Total GRO-DRO** | PHC628 | **61.9** | 50.1 | mg/kg | 01.15.20 19.28 | | 1 |
| **Total TPH** | PHC635 | **61.9** | 50.1 | mg/kg | 01.15.20 19.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 01.15.20 19.28 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 01.15.20 19.28 | |

# Certificate of Analytical Results 649025

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW55** | Matrix: | Soil | Date Received: | 01.14.20 16.30 |
| Lab Sample Id: | 649025-030 | Date Collected: | 01.14.20 14.15 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.14.20 17.39 | Basis: | Wet Weight |
| Seq Number: | 3113284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.14.20 22.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.14.20 22.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.14.20 22.01 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.14.20 22.01 | |

# 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

# QC Summary 649025



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113245 — Matrix: Solid — Date Prep: 01.14.20
MB Sample Id: 7694373-1-BLK — LCS Sample Id: 7694373-1-BKS — LCSD Sample Id: 7694373-1-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 | 252 | 101 | 251 | 100 | 90-110 | 0 | 20 | mg/kg | 01.14.20 21:22 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113250 — Matrix: Solid — Date Prep: 01.14.20
MB Sample Id: 7694375-1-BLK — LCS Sample Id: 7694375-1-BKS — LCSD Sample Id: 7694375-1-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 | 253 | 101 | 90-110 | 1 | 20 | mg/kg | 01.15.20 00:20 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113245 — Matrix: Soil — Date Prep: 01.14.20
Parent Sample Id: 648981-033 — MS Sample Id: 648981-033 S — MSD Sample Id: 648981-033 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 70.6 | 201 | 276 | 102 | 279 | 104 | 90-110 | 1 | 20 | mg/kg | 01.14.20 21:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113245 — Matrix: Soil — Date Prep: 01.14.20
Parent Sample Id: 649014-002 — MS Sample Id: 649014-002 S — MSD Sample Id: 649014-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 193 | 199 | 404 | 106 | 404 | 106 | 90-110 | 0 | 20 | mg/kg | 01.14.20 22:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113250 — Matrix: Soil — Date Prep: 01.14.20
Parent Sample Id: 649025-015 — MS Sample Id: 649025-015 S — MSD Sample Id: 649025-015 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.12 | 200 | 194 | 95 | 199 | 97 | 90-110 | 3 | 20 | mg/kg | 01.15.20 00:36 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 649025



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3113250 Matrix: Soil Date Prep: 01.14.20
Parent Sample Id: 649025-025 MS Sample Id: 649025-025 S MSD Sample Id: 649025-025 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 6.40 | 199 | 202 | 98 | 200 | 97 | 90-110 | 1 | 20 | mg/kg | 01.15.20 01:51 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113359 Matrix: Solid Date Prep: 01.14.20
MB Sample Id: 7694370-1-BLK LCS Sample Id: 7694370-1-BKS LCSD Sample Id: 7694370-1-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 | 749 | 75 | 768 | 77 | 70-135 | 3 | 35 | mg/kg | 01.15.20 04:37 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 755 | 76 | 776 | 78 | 70-135 | 3 | 35 | mg/kg | 01.15.20 04:37 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | | 133 | | 134 | | 70-135 | % | 01.15.20 04:37 |
| o-Terphenyl | 122 | | 126 | | 132 | | 70-135 | % | 01.15.20 04:37 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113342 Matrix: Solid Date Prep: 01.15.20
MB Sample Id: 7694368-1-BLK LCS Sample Id: 7694368-1-BKS LCSD Sample Id: 7694368-1-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 | 852 | 85 | 947 | 95 | 70-135 | 11 | 35 | mg/kg | 01.15.20 00:16 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 738 | 74 | 816 | 82 | 70-135 | 10 | 35 | mg/kg | 01.15.20 00:16 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 109 | | 90 | | 104 | | 70-135 | % | 01.15.20 00:16 |
| o-Terphenyl | 110 | | 82 | | 81 | | 70-135 | % | 01.15.20 00:16 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113359 Matrix: Solid Date Prep: 01.14.20
MB Sample Id: 7694370-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.15.20 04:37 | |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 649025



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113342 — Matrix: Solid — Date Prep: 01.15.20
MB Sample Id: 7694368-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.14.20 23:55 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113359 — Matrix: Soil — Date Prep: 01.14.20
Parent Sample Id: 649025-015 — MS Sample Id: 649025-015 S — MSD Sample Id: 649025-015 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 | 978 | 97 | 997 | 100 | 70-135 | 2 | 35 | mg/kg | 01.15.20 19:08 | |
| Diesel Range Organics (DRO) | <50.3 | 1010 | 1040 | 103 | 1100 | 110 | 70-135 | 6 | 35 | mg/kg | 01.15.20 19:08 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 130 | | 114 | | 70-135 | % | 01.15.20 19:08 |
| o-Terphenyl | 103 | | 105 | | 70-135 | % | 01.15.20 19:08 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113342 — Matrix: Soil — Date Prep: 01.15.20
Parent Sample Id: 648981-033 — MS Sample Id: 648981-033 S — MSD Sample Id: 648981-033 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 999 | 1160 | 116 | 985 | 98 | 70-135 | 16 | 35 | mg/kg | 01.15.20 18:48 | |
| Diesel Range Organics (DRO) | 84.7 | 999 | 1310 | 123 | 1170 | 107 | 70-135 | 11 | 35 | mg/kg | 01.15.20 18:48 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 129 | | 116 | | 70-135 | % | 01.15.20 18:48 |
| o-Terphenyl | 122 | | 112 | | 70-135 | % | 01.15.20 18:48 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 649025



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113259 — Matrix: Solid — Date Prep: 01.14.20
MB Sample Id: 7694383-1-BLK — LCS Sample Id: 7694383-1-BKS — LCSD Sample Id: 7694383-1-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 | 0.0999 | 100 | 0.0997 | 100 | 70-130 | 0 | 35 | mg/kg | 01.15.20 00:43 | |
| Toluene | <0.00200 | 0.100 | 0.0974 | 97 | 0.0963 | 96 | 70-130 | 1 | 35 | mg/kg | 01.15.20 00:43 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0975 | 98 | 0.0954 | 95 | 71-129 | 2 | 35 | mg/kg | 01.15.20 00:43 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.193 | 97 | 0.190 | 95 | 70-135 | 2 | 35 | mg/kg | 01.15.20 00:43 | |
| o-Xylene | <0.00200 | 0.100 | 0.0960 | 96 | 0.0963 | 96 | 71-133 | 0 | 35 | mg/kg | 01.15.20 00:43 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 100 | | 103 | | 70-130 | % | 01.15.20 00:43 |
| 4-Bromofluorobenzene | 101 | | 100 | | 107 | | 70-130 | % | 01.15.20 00:43 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113284 — Matrix: Solid — Date Prep: 01.14.20
MB Sample Id: 7694384-1-BLK — LCS Sample Id: 7694384-1-BKS — LCSD Sample Id: 7694384-1-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 | 0.0939 | 94 | 70-130 | 7 | 35 | mg/kg | 01.14.20 20:34 | |
| Toluene | <0.00200 | 0.100 | 0.101 | 101 | 0.0918 | 92 | 70-130 | 10 | 35 | mg/kg | 01.14.20 20:34 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0977 | 98 | 0.0885 | 89 | 71-129 | 10 | 35 | mg/kg | 01.14.20 20:34 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.201 | 101 | 0.182 | 91 | 70-135 | 10 | 35 | mg/kg | 01.14.20 20:34 | |
| o-Xylene | <0.00200 | 0.100 | 0.0982 | 98 | 0.0897 | 90 | 71-133 | 9 | 35 | mg/kg | 01.14.20 20:34 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 101 | | 101 | | 70-130 | % | 01.14.20 20:34 |
| 4-Bromofluorobenzene | 100 | | 99 | | 99 | | 70-130 | % | 01.14.20 20:34 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113259 — Matrix: Soil — Date Prep: 01.14.20
Parent Sample Id: 648981-035 — MS Sample Id: 648981-035 S — MSD Sample Id: 648981-035 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 | 0.0836 | 84 | 0.0996 | 100 | 70-130 | 17 | 35 | mg/kg | 01.15.20 01:21 | |
| Toluene | <0.00200 | 0.100 | 0.0759 | 76 | 0.0935 | 94 | 70-130 | 21 | 35 | mg/kg | 01.15.20 01:21 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0701 | 70 | 0.0894 | 90 | 71-129 | 24 | 35 | mg/kg | 01.15.20 01:21 | X |
| m,p-Xylenes | <0.00401 | 0.200 | 0.143 | 72 | 0.173 | 87 | 70-135 | 19 | 35 | mg/kg | 01.15.20 01:21 | |
| o-Xylene | <0.00200 | 0.100 | 0.0694 | 69 | 0.0970 | 97 | 71-133 | 33 | 35 | mg/kg | 01.15.20 01:21 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 107 | | 70-130 | % | 01.15.20 01:21 |
| 4-Bromofluorobenzene | 106 | | 109 | | 70-130 | % | 01.15.20 01:21 |

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

# QC Summary 649025



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3113284 Matrix: Soil Date Prep: 01.14.20

Parent Sample Id: 649025-030 MS Sample Id: 649025-030 S MSD Sample Id: 649025-030 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 | 0.0901 | 91 | 0.0902 | 90 | 70-130 | 0 | 35 | mg/kg | 01.14.20 21:08 | |
| Toluene | <0.00199 | 0.0994 | 0.0848 | 85 | 0.0836 | 84 | 70-130 | 1 | 35 | mg/kg | 01.14.20 21:08 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0773 | 78 | 0.0731 | 73 | 71-129 | 6 | 35 | mg/kg | 01.14.20 21:08 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.155 | 78 | 0.147 | 74 | 70-135 | 5 | 35 | mg/kg | 01.14.20 21:08 | |
| o-Xylene | <0.00199 | 0.0994 | 0.0768 | 77 | 0.0728 | 73 | 71-133 | 5 | 35 | mg/kg | 01.14.20 21:08 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 103 | | 70-130 | % | 01.14.20 21:08 |
| 4-Bromofluorobenzene | 106 | | 103 | | 70-130 | % | 01.14.20 21:08 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 649025

XENCO LABORATORIES
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 Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 522 W. Mermod St |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (432) 236-3849 | Email: | Jhill@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | IRP - 5694 | Routine | ☐ |
| P.O. Number: | IRP-5694 | Rush: | 24 hr |
| Sampler's Name: | Jeremy Hill | Due Date: | 1/15/20 |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 4.2 | Thermometer ID | | |
| Received Intact: | (Yes) No | TNM007 | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 30 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SW26 | s | 1/14/20 | 1000 | 1-4' | 1 | X | X | X | Composite |
| SW27 | s | | 1005 | | | | | | |
| SW28 | s | | 1010 | | | | | | |
| SW29 | s | | 1035 | | | | | | |
| SW30 | s | | 1040 | | | | | | |
| SW31 | s | | 1045 | | | | | | |
| SW32 | s | | 1050 | | | | | | |
| SW33 | s | | 1055 | | | | | | |
| SW34 | s | | 1115 | | | | | | |
| SW35 | s | | 1120 | | | | | | |

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/14/20 16:30 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |



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# Chain of Custody

Work Order No: 649025

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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 (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 522 W. Mermod St |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (432) 236-3849 Email: | | Jhill@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | IRP-5694 | Routine ☐ | |
| P.O. Number: | IRP-5694 | Rush: 24 hr | |
| Sampler's Name: | Jeremy Hill | Due Date: 1/15/20 | |

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

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SW36 | S | 1/14/20 | 1125 | 1-4' | 1 | X | X | X | Composite |
| SW37 | S | | 1130 | | | | | | |
| SW38 | S | | 1135 | | | | | | |
| SW39 | S | | 1155 | | | | | | |
| SW40 | S | | 1200 | | | | | | |
| SW41 | S | | 1205 | | | | | | |
| SW42 | S | | 1210 | | | | | | |
| SW43 | S | | 1215 | | | | | | |
| SW44 | S | | 1855 | | | | | | |
| SW45 | S | | 1300 | | | | | | |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/14/20 1630 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

XENCO LABORATORIES

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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 (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

**Work Order No:** 449025

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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: | 522 W. Mermod St |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (432) 236-3849 | Email: | Jhill@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 1RP-5694 | Routine ☐ | |
| P.O. Number: | 1RP-5694 | Rush: 24 hr | |
| Sampler's Name: | Jeremy Hill | Due Date: 1/15/20 | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SW46 | S | 1/14/20 | 1305 | 1-4' | 1 | X | X | X | Composite |
| SW47 | S | | 1310 | | | | | | |
| SW48 | S | | 1325 | | | | | | |
| SW49 | S | | 1330 | | | | | | |
| SW50 | S | | 1335 | | | | | | |
| SW51 | S | | 1340 | | | | | | |
| SW52 | S | | 1400 | | | | | | |
| SW53 | S | | 1405 | | | | | | |
| SW54 | S | | 1410 | | | | | | |
| SW55 | S | | 1415 | | 2 | | | | |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **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 |
|---|---|---|---|---|---|
| | | 1/14/20 16:30 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/27/2020 1:28:56 PM



Final 1.000

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01.14.2020 04.30.00 PM

**Work Order #:** 649025

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 4.2 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01.14.2020

**Checklist reviewed by:** Jessica Kramer Date: 01.15.2020

Jessica Kramer

# Analytical Report 649666

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**22-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)

22-JAN-20

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

Reference: XENCO Report No(s): **649666**
**EMSU CTB**
Project Address: LEA

**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) 649666. 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. 649666 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 649666

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS 109 A | S | 01-20-20 11:04 | 6 ft | 649666-001 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *649666*

Report Date: *22-JAN-20*
Date Received: *01/20/2020*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3113883 TPH by SW8015 Mod
Sample 649666-001 diluted due to presence of non-target analytes.

Batch: LBA-3113991 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030. Sample 001 diluted due to presence of non-target analytes.
Lab Sample ID 649663-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 649666

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:** LEA

**Date Received in Lab:** Mon Jan-20-20 04:30 pm
**Report Date:** 22-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649666-001 | | | | | |
| | ***Field Id:*** | FS 109 A | | | | | |
| | ***Depth:*** | 6- ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | Jan-20-20 11:04 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-20-20 17:00 | | | | | |
| | ***Analyzed:*** | Jan-21-20 14:13 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Benzene | | <0.0208 | 0.0208 | | | | |
| Toluene | | <0.0208 | 0.0208 | | | | |
| Ethylbenzene | | <0.0208 | 0.0208 | | | | |
| m,p-Xylenes | | <0.0417 | 0.0417 | | | | |
| o-Xylene | | <0.0208 | 0.0208 | | | | |
| Total Xylenes | | <0.0208 | 0.0208 | | | | |
| Total BTEX | | <0.0208 | 0.0208 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-21-20 09:30 | | | | | |
| | ***Analyzed:*** | Jan-21-20 09:51 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Chloride | | <9.92 | 9.92 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-20-20 17:00 | | | | | |
| | ***Analyzed:*** | Jan-21-20 03:30 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.3 | 50.3 | | | | |
| Diesel Range Organics (DRO) | | 2950 | 50.3 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 385 | 50.3 | | | | |
| Total GRO-DRO | | 2950 | 50.3 | | | | |
| Total TPH | | 3340 | 50.3 | | | | |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 649666

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 109 A** Matrix: Soil Date Received:01.20.20 16.30

Lab Sample Id: 649666-001 Date Collected: 01.20.20 11.04 Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JHB % Moisture:

Analyst: JHB Date Prep: 01.21.20 09.30 Basis: Wet Weight

Seq Number: 3113990

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 01.21.20 09.51 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight

Seq Number: 3113883

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.21.20 03.30 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2950** | 50.3 | mg/kg | 01.21.20 03.30 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **385** | 50.3 | mg/kg | 01.21.20 03.30 | | 1 |
| **Total GRO-DRO** | PHC628 | **2950** | 50.3 | mg/kg | 01.21.20 03.30 | | 1 |
| **Total TPH** | PHC635 | **3340** | 50.3 | mg/kg | 01.21.20 03.30 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.21.20 03.30 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 01.21.20 03.30 | |

# Certificate of Analytical Results 649666

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 109 A** | Matrix: | Soil | Date Received: | 01.20.20 16.30 |
| Lab Sample Id: | 649666-001 | Date Collected: | 01.20.20 11.04 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | JHB | | | % Moisture: | |
| Analyst: | JHB | Date Prep: | 01.20.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3113991 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |
| Toluene | 108-88-3 | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0417 | 0.0417 | mg/kg | 01.21.20 14.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |
| Total BTEX | | <0.0208 | 0.0208 | mg/kg | 01.21.20 14.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.21.20 14.13 | |
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 01.21.20 14.13 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 649666



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113990 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694796-1-BLK — LCS Sample Id: 7694796-1-BKS — LCSD Sample Id: 7694796-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1.41 | 250 | 258 | 103 | 258 | 103 | 90-110 | 0 | 20 | mg/kg | 01.20.20 21:39 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113990 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649655-001 — MS Sample Id: 649655-001 S — MSD Sample Id: 649655-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 29.2 | 189 | 287 | 136 | 288 | 137 | 90-110 | 0 | 20 | mg/kg | 01.20.20 21:50 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113990 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649663-010 — MS Sample Id: 649663-010 S — MSD Sample Id: 649663-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 285 | 198 | 553 | 135 | 495 | 107 | 90-110 | 11 | 20 | mg/kg | 01.20.20 23:44 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113883 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694812-1-BLK — LCS Sample Id: 7694812-1-BKS — LCSD Sample Id: 7694812-1-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 | 1140 | 114 | 70-135 | 4 | 35 | mg/kg | 01.20.20 23:34 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1210 | 121 | 1100 | 110 | 70-135 | 10 | 35 | mg/kg | 01.20.20 23:34 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 116 | | 124 | | 70-135 | % | 01.20.20 23:34 |
| o-Terphenyl | 102 | | 109 | | 117 | | 70-135 | % | 01.20.20 23:34 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113883 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694812-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.20.20 23:14 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 649666



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113883 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649655-004 — MS Sample Id: 649655-004 S — MSD Sample Id: 649655-004 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 | 1280 | 128 | 1170 | 117 | 70-135 | 9 | 35 | mg/kg | 01.20.20 23:53 | |
| Diesel Range Organics (DRO) | <50.1 | 1000 | 1240 | 124 | 1090 | 109 | 70-135 | 13 | 35 | mg/kg | 01.20.20 23:53 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 133 | | 129 | | 70-135 | % | 01.20.20 23:53 |
| o-Terphenyl | 129 | | 118 | | 70-135 | % | 01.20.20 23:53 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113991 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694845-1-BLK — LCS Sample Id: 7694845-1-BKS — LCSD Sample Id: 7694845-1-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 | 0.0906 | 91 | 0.0910 | 91 | 70-130 | 0 | 35 | mg/kg | 01.21.20 04:54 | |
| Toluene | <0.00200 | 0.100 | 0.0883 | 88 | 0.0880 | 88 | 70-130 | 0 | 35 | mg/kg | 01.21.20 04:54 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0855 | 86 | 0.0842 | 84 | 71-129 | 2 | 35 | mg/kg | 01.21.20 04:54 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.177 | 89 | 0.173 | 87 | 70-135 | 2 | 35 | mg/kg | 01.21.20 04:54 | |
| o-Xylene | <0.00200 | 0.100 | 0.0882 | 88 | 0.0867 | 87 | 71-133 | 2 | 35 | mg/kg | 01.21.20 04:54 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 102 | | 101 | | 70-130 | % | 01.21.20 04:54 |
| 4-Bromofluorobenzene | 98 | | 97 | | 96 | | 70-130 | % | 01.21.20 04:54 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3113991 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649663-005 — MS Sample Id: 649663-005 S — MSD Sample Id: 649663-005 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 | 0.0816 | 82 | 0.0670 | 66 | 70-130 | 20 | 35 | mg/kg | 01.21.20 05:35 | X |
| Toluene | <0.00200 | 0.0998 | 0.0788 | 79 | 0.0665 | 66 | 70-130 | 17 | 35 | mg/kg | 01.21.20 05:35 | X |
| Ethylbenzene | <0.00200 | 0.0998 | 0.0761 | 76 | 0.0645 | 64 | 71-129 | 17 | 35 | mg/kg | 01.21.20 05:35 | X |
| m,p-Xylenes | <0.00399 | 0.200 | 0.157 | 79 | 0.135 | 67 | 70-135 | 15 | 35 | mg/kg | 01.21.20 05:35 | X |
| o-Xylene | <0.00200 | 0.0998 | 0.0786 | 79 | 0.0685 | 68 | 71-133 | 14 | 35 | mg/kg | 01.21.20 05:35 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 103 | | 70-130 | % | 01.21.20 05:35 |
| 4-Bromofluorobenzene | 99 | | 102 | | 70-130 | % | 01.21.20 05:35 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Page 686 of 970

# Chain of Custody

Work Order No: 1049[illegible]

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☐ |
| P.O. Number: | LEA | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Temperature (°C): | 3.4 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 1 |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS109A | S | 1/20/20 | 11:04 | 6' | 1 | X | X | X | composite |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 1/20/2016:30 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01/20/2020 04:30:00 PM

**Work Order #:** 649666

**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)? | 3.4 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01/20/2020

**Checklist reviewed by:** Jessica Kramer Date: 01/21/2020

Jessica Kramer

# Analytical Report 649667

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012918208**

**01.24.2020**

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)

01.24.2020

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

Reference: XENCO Report No(s): **649667**
**EMSU CTB**
Project Address: LEA

**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) 649667. 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. 649667 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**Jessica Kramer**
Project Assistant

*A Small Business and Minority Company*

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

# Sample Cross Reference 649667

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS109 B | S | 01.20.2020 11:40 | 7 ft | 649667-001 |
| FS109 C | S | 01.20.2020 11:53 | 8 ft | 649667-002 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012918208*
Work Order Number(s): *649667*

Report Date: *01.24.2020*
Date Received: *01.20.2020*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3114158 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114282 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 649667

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012918208
**Contact:** Dan Moir
**Project Location:** LEA

**Date Received in Lab:** Mon 01.20.2020 16:30
**Report Date:** 01.24.2020 14:38
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 649667-001 | | 649667-002 | | | | | |
| | ***Field Id:*** | FS109 B | | FS109 C | | | | | |
| | ***Depth:*** | 7- ft | | 8- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | 01.20.2020 11:40 | | 01.20.2020 11:53 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 01.23.2020 10:56 | | 01.23.2020 12:30 | | | | | |
| | ***Analyzed:*** | ** ** ** ** | | 01.23.2020 16:42 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.0200 | 0.0200 | <0.0196 | 0.0196 | | | | |
| Toluene | | <0.0200 | 0.0200 | <0.0196 | 0.0196 | | | | |
| Ethylbenzene | | <0.0200 | 0.0200 | 0.0570 | 0.0196 | | | | |
| m,p-Xylenes | | <0.0400 | 0.0400 | 0.0900 | 0.0392 | | | | |
| o-Xylene | | <0.0200 | 0.0200 | 0.0381 | 0.0196 | | | | |
| Total Xylenes | | <0.0200 | 0.0200 | 0.128 | 0.0196 | | | | |
| Total BTEX | | <0.0200 | 0.0200 | 0.185 | 0.0196 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | 01.23.2020 07:33 | | 01.23.2020 13:00 | | | | | |
| | ***Analyzed:*** | 01.23.2020 09:58 | | 01.23.2020 16:11 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 16.1 | 9.94 | 12.9 | 9.98 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 01.22.2020 13:30 | | 01.23.2020 16:30 | | | | | |
| | ***Analyzed:*** | 01.22.2020 14:23 | | 01.23.2020 18:46 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.2 | 50.2 | 65.5 | 50.2 | | | | |
| Diesel Range Organics (DRO) | | 1560 | 50.2 | 1610 | 50.2 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 229 | 50.2 | 222 | 50.2 | | | | |
| Total GRO-DRO | | 1560 | 50.2 | 1680 | 50.2 | | | | |
| Total TPH | | 1790 | 50.2 | 1900 | 50.2 | | | | |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 649667

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109 B** | Matrix: | Soil | Date Received: | 01.20.2020 16:30 |
| Lab Sample Id: | 649667-001 | Date Collected: | 01.20.2020 11:40 | Sample Depth: | 7 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.23.2020 07:33 | Basis: | Wet Weight |
| Seq Number: | 3114175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.1** | 9.94 | mg/kg | 01.23.2020 09:58 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.22.2020 13:30 | Basis: | Wet Weight |
| Seq Number: | 3114163 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.22.2020 14:23 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1560** | 50.2 | mg/kg | 01.22.2020 14:23 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **229** | 50.2 | mg/kg | 01.22.2020 14:23 | | 1 |
| **Total GRO-DRO** | PHC628 | **1560** | 50.2 | mg/kg | 01.22.2020 14:23 | | 1 |
| **Total TPH** | PHC635 | **1790** | 50.2 | mg/kg | 01.22.2020 14:23 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 01.22.2020 14:23 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 01.22.2020 14:23 | |

# Certificate of Analytical Results 649667

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109 B** | Matrix: | Soil | Date Received: | 01.20.2020 16:30 |
| Lab Sample Id: | 649667-001 | Date Collected: | 01.20.2020 11:40 | Sample Depth: | 7 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.23.2020 10:56 | Basis: | Wet Weight |
| Seq Number: | 3114158 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |
| Toluene | 108-88-3 | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.0400 | 0.0400 | mg/kg | 01.23.2020 01:08 | U | 1 |
| o-Xylene | 95-47-6 | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |
| Total BTEX | | <0.0200 | 0.0200 | mg/kg | 01.23.2020 01:08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.23.2020 01:08 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 01.23.2020 01:08 | |

# Certificate of Analytical Results 649667

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109 C** | Matrix: | Soil | Date Received: | 01.20.2020 16:30 |
| Lab Sample Id: | 649667-002 | Date Collected: | 01.20.2020 11:53 | Sample Depth: | 8 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.23.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3114258 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.9** | 9.98 | mg/kg | 01.23.2020 16:11 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.23.2020 16:30 | Basis: | Wet Weight |
| Seq Number: | 3114256 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **65.5** | 50.2 | mg/kg | 01.23.2020 18:46 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1610** | 50.2 | mg/kg | 01.23.2020 18:46 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **222** | 50.2 | mg/kg | 01.23.2020 18:46 | | 1 |
| **Total GRO-DRO** | PHC628 | **1680** | 50.2 | mg/kg | 01.23.2020 18:46 | | 1 |
| **Total TPH** | PHC635 | **1900** | 50.2 | mg/kg | 01.23.2020 18:46 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 01.23.2020 18:46 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 01.23.2020 18:46 | |

# Certificate of Analytical Results 649667

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS109 C** | Matrix: | Soil | Date Received: | 01.20.2020 16:30 |
| Lab Sample Id: | 649667-002 | Date Collected: | 01.20.2020 11:53 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.23.2020 12:30 | Basis: | Wet Weight |
| Seq Number: | 3114282 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0196 | 0.0196 | mg/kg | 01.23.2020 16:42 | U | 1 |
| Toluene | 108-88-3 | <0.0196 | 0.0196 | mg/kg | 01.23.2020 16:42 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0570** | 0.0196 | mg/kg | 01.23.2020 16:42 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0900** | 0.0392 | mg/kg | 01.23.2020 16:42 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0381** | 0.0196 | mg/kg | 01.23.2020 16:42 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.128** | 0.0196 | mg/kg | 01.23.2020 16:42 | | 1 |
| **Total BTEX** | | **0.185** | 0.0196 | mg/kg | 01.23.2020 16:42 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 89 | % | 70-130 | 01.23.2020 16:42 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 01.23.2020 16:42 | |

# 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

# QC Summary 649667



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114175 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695005-1-BLK — LCS Sample Id: 7695005-1-BKS — LCSD Sample Id: 7695005-1-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 | 254 | 102 | 256 | 102 | 90-110 | 1 | 20 | mg/kg | 01.23.2020 08:49 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114258 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695008-1-BLK — LCS Sample Id: 7695008-1-BKS — LCSD Sample Id: 7695008-1-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 | 251 | 100 | 90-110 | 1 | 20 | mg/kg | 01.23.2020 11:46 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114175 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 649828-001 — MS Sample Id: 649828-001 S — MSD Sample Id: 649828-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 444 | 200 | 639 | 98 | 636 | 96 | 90-110 | 0 | 20 | mg/kg | 01.23.2020 09:06 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114175 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 649938-001 — MS Sample Id: 649938-001 S — MSD Sample Id: 649938-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 90.4 | 200 | 304 | 107 | 304 | 107 | 90-110 | 0 | 20 | mg/kg | 01.23.2020 10:25 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114258 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 649936-005 — MS Sample Id: 649936-005 S — MSD Sample Id: 649936-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 11.0 | 202 | 216 | 101 | 216 | 101 | 90-110 | 0 | 20 | mg/kg | 01.23.2020 12:02 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114258 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 650035-009 — MS Sample Id: 650035-009 S — MSD Sample Id: 650035-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 193 | 201 | 401 | 103 | 400 | 103 | 90-110 | 0 | 20 | mg/kg | 01.23.2020 14:58 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 649667



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114163 — Matrix: Solid — Date Prep: 01.22.2020
MB Sample Id: 7694967-1-BLK — LCS Sample Id: 7694967-1-BKS — LCSD Sample Id: 7694967-1-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 | 1250 | 125 | 1150 | 115 | 70-135 | 8 | 35 | mg/kg | 01.22.2020 10:41 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1200 | 120 | 1170 | 117 | 70-135 | 3 | 35 | mg/kg | 01.22.2020 10:41 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | | 125 | | 123 | | 70-135 | % | 01.22.2020 10:41 |
| o-Terphenyl | 103 | | 114 | | 115 | | 70-135 | % | 01.22.2020 10:41 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114256 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695066-1-BLK — LCS Sample Id: 7695066-1-BKS — LCSD Sample Id: 7695066-1-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 | 1230 | 123 | 1110 | 111 | 70-135 | 10 | 35 | mg/kg | 01.23.2020 17:25 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1250 | 125 | 1080 | 108 | 70-135 | 15 | 35 | mg/kg | 01.23.2020 17:25 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 96 | | 127 | | 129 | | 70-135 | % | 01.23.2020 17:25 |
| o-Terphenyl | 92 | | 115 | | 103 | | 70-135 | % | 01.23.2020 17:25 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114163 — Matrix: Solid — Date Prep: 01.22.2020
MB Sample Id: 7694967-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.22.2020 10:21 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114256 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695066-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.23.2020 17:25 | |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

# QC Summary 649667



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114163 — Matrix: Soil — Date Prep: 01.22.2020
Parent Sample Id: 649828-001 — MS Sample Id: 649828-001 S — MSD Sample Id: 649828-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <49.8 | 995 | 1280 | 129 | 1270 | 127 | 70-135 | 1 | 35 | mg/kg | 01.22.2020 11:00 | |
| Diesel Range Organics (DRO) | <49.8 | 995 | 1300 | 131 | 1210 | 121 | 70-135 | 7 | 35 | mg/kg | 01.22.2020 11:00 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 135 | | 130 | | 70-135 | % | 01.22.2020 11:00 |
| o-Terphenyl | 128 | | 112 | | 70-135 | % | 01.22.2020 11:00 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114256 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 650035-021 — MS Sample Id: 650035-021 S — MSD Sample Id: 650035-021 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) | <50.0 | 1000 | 1080 | 108 | 1040 | 104 | 70-135 | 4 | 35 | mg/kg | 01.23.2020 18:06 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1050 | 105 | 1060 | 106 | 70-135 | 1 | 35 | mg/kg | 01.23.2020 18:06 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 120 | | 120 | | 70-135 | % | 01.23.2020 18:06 |
| o-Terphenyl | 109 | | 115 | | 70-135 | % | 01.23.2020 18:06 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114158 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695003-1-BLK — LCS Sample Id: 7695003-1-BKS — LCSD Sample Id: 7695003-1-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 | 0.103 | 103 | 0.107 | 107 | 70-130 | 4 | 35 | mg/kg | 01.22.2020 21:24 | |
| Toluene | <0.00200 | 0.100 | 0.100 | 100 | 0.103 | 103 | 70-130 | 3 | 35 | mg/kg | 01.22.2020 21:24 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0976 | 98 | 0.0988 | 99 | 71-129 | 1 | 35 | mg/kg | 01.22.2020 21:24 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.201 | 101 | 0.203 | 102 | 70-135 | 1 | 35 | mg/kg | 01.22.2020 21:24 | |
| o-Xylene | <0.00200 | 0.100 | 0.0993 | 99 | 0.101 | 101 | 71-133 | 2 | 35 | mg/kg | 01.22.2020 21:24 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 102 | | 103 | | 70-130 | % | 01.22.2020 21:24 |
| 4-Bromofluorobenzene | 93 | | 97 | | 96 | | 70-130 | % | 01.22.2020 21:24 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 649667



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114282 — Matrix: Solid — Date Prep: 01.23.2020
MB Sample Id: 7695070-1-BLK — LCS Sample Id: 7695070-1-BKS — LCSD Sample Id: 7695070-1-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 | 0.116 | 116 | 0.123 | 123 | 70-130 | 6 | 35 | mg/kg | 01.23.2020 13:38 | |
| Toluene | <0.00200 | 0.100 | 0.106 | 106 | 0.112 | 112 | 70-130 | 6 | 35 | mg/kg | 01.23.2020 13:38 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.104 | 104 | 0.107 | 107 | 71-129 | 3 | 35 | mg/kg | 01.23.2020 13:38 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.202 | 101 | 0.210 | 105 | 70-135 | 4 | 35 | mg/kg | 01.23.2020 13:38 | |
| o-Xylene | <0.00200 | 0.100 | 0.100 | 100 | 0.106 | 106 | 71-133 | 6 | 35 | mg/kg | 01.23.2020 13:38 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 105 | | 109 | | 70-130 | % | 01.23.2020 13:38 |
| 4-Bromofluorobenzene | 91 | | 84 | | 94 | | 70-130 | % | 01.23.2020 13:38 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114158 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 649828-001 — MS Sample Id: 649828-001 S — MSD Sample Id: 649828-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | 0.100 | 0.110 | 110 | 0.109 | 108 | 70-130 | 1 | 35 | mg/kg | 01.22.2020 22:05 | |
| Toluene | <0.00201 | 0.100 | 0.108 | 108 | 0.106 | 105 | 70-130 | 2 | 35 | mg/kg | 01.22.2020 22:05 | |
| Ethylbenzene | <0.00201 | 0.100 | 0.104 | 104 | 0.102 | 101 | 71-129 | 2 | 35 | mg/kg | 01.22.2020 22:05 | |
| m,p-Xylenes | <0.00402 | 0.201 | 0.217 | 108 | 0.213 | 106 | 70-135 | 2 | 35 | mg/kg | 01.22.2020 22:05 | |
| o-Xylene | <0.00201 | 0.100 | 0.107 | 107 | 0.105 | 104 | 71-133 | 2 | 35 | mg/kg | 01.22.2020 22:05 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 101 | | 70-130 | % | 01.22.2020 22:05 |
| 4-Bromofluorobenzene | 101 | | 98 | | 70-130 | % | 01.22.2020 22:05 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114282 — Matrix: Soil — Date Prep: 01.23.2020
Parent Sample Id: 650035-021 — MS Sample Id: 650035-021 S — MSD Sample Id: 650035-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0992 | 0.0907 | 91 | 0.0946 | 95 | 70-130 | 4 | 35 | mg/kg | 01.23.2020 14:19 | |
| Toluene | <0.00198 | 0.0992 | 0.0869 | 88 | 0.0827 | 83 | 70-130 | 5 | 35 | mg/kg | 01.23.2020 14:19 | |
| Ethylbenzene | <0.00198 | 0.0992 | 0.0832 | 84 | 0.0890 | 89 | 71-129 | 7 | 35 | mg/kg | 01.23.2020 14:19 | |
| m,p-Xylenes | <0.00397 | 0.198 | 0.188 | 95 | 0.170 | 85 | 70-135 | 10 | 35 | mg/kg | 01.23.2020 14:19 | |
| o-Xylene | <0.00198 | 0.0992 | 0.0882 | 89 | 0.0838 | 84 | 71-133 | 5 | 35 | mg/kg | 01.23.2020 14:19 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 108 | | 109 | | 70-130 | % | 01.23.2020 14:19 |
| 4-Bromofluorobenzene | 93 | | 92 | | 70-130 | % | 01.23.2020 14:19 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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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# Chain of Custody

Work Order No: ~~u49ce7~~ Q4/20 u49ce7

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 12919208 | Routine | ☐ |
| P.O. Number: | LEA | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Temperature (°C): | 3.4 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | 2 |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | HOLD |
|---|---|---|---|---|---|---|---|---|---|
| FS109B | S | 1/20/20 | 11:40 | 7' | 1 | | | | X |
| FS109C | S | 1/20/20 | 11:53 | 8' | 1 | | | | X |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

FS109B: Composite, HOLD
FS109C: Composite, HOLD

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | W. Mather | | 1/20/20 16:30 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM
Final 1.001
Page 15 of 16

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01/20/2020 04:30:00 PM

**Work Order #:** 649667

**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)? | 3.4 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01/20/2020

**Checklist reviewed by:** Jessica Kramer Date: 01/22/2020

Jessica Kramer

# Analytical Report 651190

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**05-FEB-20**

Collected By: Client

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

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

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

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

05-FEB-20

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

Reference: XENCO Report No(s): **651190**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 651190. 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. 651190 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 651190

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS 109D | S | 02-03-20 13:11 | 10 ft | 651190-001 |
| SW 57 | S | 02-03-20 14:25 | 1 - 4 ft | 651190-002 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *651190*

Report Date: *05-FEB-20*
Date Received: *02/04/2020*

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3115566 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 651190

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Feb-04-20 08:48 am
**Report Date:** 05-FEB-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 651190-001 | | 651190-002 | | | | | |
| | ***Field Id:*** | FS 109D | | SW 57 | | | | | |
| | ***Depth:*** | 10- ft | | 1-4 ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Feb-03-20 13:11 | | Feb-03-20 14:25 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-04-20 09:30 | | Feb-04-20 09:30 | | | | | |
| | ***Analyzed:*** | Feb-04-20 15:17 | | Feb-04-20 15:38 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | | | | |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Feb-04-20 10:20 | | Feb-04-20 10:20 | | | | | |
| | ***Analyzed:*** | Feb-04-20 10:43 | | Feb-04-20 11:03 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 27.7 | 4.98 | 11.1 | 5.03 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-04-20 13:00 | | Feb-04-20 13:00 | | | | | |
| | ***Analyzed:*** | Feb-04-20 13:04 | | ** ** ** ** | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Diesel Range Organics (DRO) | | 433 | 50.0 | 273 | 50.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 98.8 | 50.0 | 56.6 | 50.0 | | | | |
| Total GRO-DRO | | 433 | 50.0 | 273 | 50.0 | | | | |
| Total TPH | | 532 | 50.0 | 330 | 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.



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 651190

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 109D** | Matrix: | Soil | Date Received: | 02.04.20 08.48 |
| Lab Sample Id: | 651190-001 | Date Collected: | 02.03.20 13.11 | Sample Depth: | 10 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.04.20 10.20 | Basis: | Wet Weight |
| Seq Number: | 3115588 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **27.7** | 4.98 | mg/kg | 02.04.20 10.43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.04.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3115596 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 02.04.20 13.04 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **433** | 50.0 | mg/kg | 02.04.20 13.04 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **98.8** | 50.0 | mg/kg | 02.04.20 13.04 | | 1 |
| **Total GRO-DRO** | PHC628 | **433** | 50.0 | mg/kg | 02.04.20 13.04 | | 1 |
| **Total TPH** | PHC635 | **532** | 50.0 | mg/kg | 02.04.20 13.04 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 02.04.20 13.04 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 02.04.20 13.04 | |

# Certificate of Analytical Results 651190

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 109D** | Matrix: | Soil | Date Received: | 02.04.20 08.48 |
| Lab Sample Id: | 651190-001 | Date Collected: | 02.03.20 13.11 | Sample Depth: | 10 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 02.04.20 09.30 | Basis: | Wet Weight |
| Seq Number: | 3115566 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.04.20 15.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 02.04.20 15.17 | |
| 4-Bromofluorobenzene | 460-00-4 | 88 | % | 70-130 | 02.04.20 15.17 | |

# Certificate of Analytical Results 651190

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW 57** | Matrix: | Soil | Date Received: | 02.04.20 08.48 |
| Lab Sample Id: | 651190-002 | Date Collected: | 02.03.20 14.25 | Sample Depth: | 1 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.04.20 10.20 | Basis: | Wet Weight |
| Seq Number: | 3115588 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.1** | 5.03 | mg/kg | 02.04.20 11.03 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.04.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3115596 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 02.04.20 12.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **273** | 50.0 | mg/kg | 02.04.20 12.07 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **56.6** | 50.0 | mg/kg | 02.04.20 12.07 | | 1 |
| **Total GRO-DRO** | PHC628 | **273** | 50.0 | mg/kg | 02.04.20 12.07 | | 1 |
| **Total TPH** | PHC635 | **330** | 50.0 | mg/kg | 02.04.20 12.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 02.04.20 12.07 | |
| o-Terphenyl | 84-15-1 | 82 | % | 70-135 | 02.04.20 12.07 | |

# Certificate of Analytical Results 651190

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW 57** | Matrix: | Soil | Date Received: | 02.04.20 08.48 |
| Lab Sample Id: | 651190-002 | Date Collected: | 02.03.20 14.25 | Sample Depth: | 1 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 02.04.20 09.30 | Basis: | Wet Weight |
| Seq Number: | 3115566 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.04.20 15.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.04.20 15.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 92 | % | 70-130 | 02.04.20 15.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.04.20 15.38 | |

# 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

# QC Summary 651190



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115588 — Matrix: Solid — Date Prep: 02.04.20
MB Sample Id: 7695889-1-BLK — LCS Sample Id: 7695889-1-BKS — LCSD Sample Id: 7695889-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 260 | 104 | 260 | 104 | 90-110 | 0 | 20 | mg/kg | 02.04.20 10:29 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115588 — Matrix: Soil — Date Prep: 02.04.20
Parent Sample Id: 651186-006 — MS Sample Id: 651186-006 S — MSD Sample Id: 651186-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50.4 | 252 | 319 | 107 | 317 | 106 | 90-110 | 1 | 20 | mg/kg | 02.04.20 12:22 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3115588 — Matrix: Soil — Date Prep: 02.04.20
Parent Sample Id: 651190-001 — MS Sample Id: 651190-001 S — MSD Sample Id: 651190-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 27.7 | 249 | 290 | 105 | 289 | 105 | 90-110 | 0 | 20 | mg/kg | 02.04.20 10:49 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3115596 — Matrix: Solid — Date Prep: 02.04.20
MB Sample Id: 7695964-1-BLK — LCS Sample Id: 7695964-1-BKS — LCSD Sample Id: 7695964-1-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 | 873 | 87 | 862 | 86 | 70-135 | 1 | 20 | mg/kg | 02.04.20 11:28 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 952 | 95 | 967 | 97 | 70-135 | 2 | 20 | mg/kg | 02.04.20 11:28 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 78 | | 101 | | 103 | | 70-135 | % | 02.04.20 11:28 |
| o-Terphenyl | 79 | | 96 | | 88 | | 70-135 | % | 02.04.20 11:28 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3115596 — Matrix: Solid — Date Prep: 02.04.20
MB Sample Id: 7695964-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 02.04.20 10:51 | |

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

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

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

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

# QC Summary 651190



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3115596 | Matrix: Soil | Date Prep: 02.04.20
Parent Sample Id: 651190-002 | MS Sample Id: 651190-002 S | MSD Sample Id: 651190-002 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) | <15.0 | 997 | 884 | 89 | 999 | 100 | 70-135 | 12 | 20 | mg/kg | 02.04.20 12:26 | |
| Diesel Range Organics (DRO) | 273 | 997 | 1070 | 80 | 1120 | 85 | 70-135 | 5 | 20 | mg/kg | 02.04.20 12:26 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | | 113 | | 70-135 | % | 02.04.20 12:26 |
| o-Terphenyl | 91 | | 97 | | 70-135 | % | 02.04.20 12:26 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3115566 | Matrix: Solid | Date Prep: 02.04.20
MB Sample Id: 7695867-1-BLK | LCS Sample Id: 7695867-1-BKS | LCSD Sample Id: 7695867-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000385 | 0.100 | 0.0974 | 97 | 0.103 | 103 | 70-130 | 6 | 35 | mg/kg | 02.04.20 12:38 | |
| Toluene | <0.000456 | 0.100 | 0.106 | 106 | 0.113 | 113 | 70-130 | 6 | 35 | mg/kg | 02.04.20 12:38 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.105 | 105 | 0.113 | 113 | 70-130 | 7 | 35 | mg/kg | 02.04.20 12:38 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.210 | 105 | 0.224 | 112 | 70-130 | 6 | 35 | mg/kg | 02.04.20 12:38 | |
| o-Xylene | <0.000344 | 0.100 | 0.106 | 106 | 0.114 | 114 | 70-130 | 7 | 35 | mg/kg | 02.04.20 12:38 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 108 | | 112 | | 70-130 | % | 02.04.20 12:38 |
| 4-Bromofluorobenzene | 71 | | 90 | | 96 | | 70-130 | % | 02.04.20 12:38 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3115566 | Matrix: Soil | Date Prep: 02.04.20
Parent Sample Id: 650969-011 | MS Sample Id: 650969-011 S | MSD Sample Id: 650969-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000384 | 0.0998 | 0.0963 | 96 | 0.100 | 100 | 70-130 | 4 | 35 | mg/kg | 02.04.20 13:18 | |
| Toluene | 0.000517 | 0.0998 | 0.0897 | 89 | 0.0987 | 98 | 70-130 | 10 | 35 | mg/kg | 02.04.20 13:18 | |
| Ethylbenzene | <0.000564 | 0.0998 | 0.0869 | 87 | 0.0968 | 97 | 70-130 | 11 | 35 | mg/kg | 02.04.20 13:18 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.173 | 87 | 0.195 | 98 | 70-130 | 12 | 35 | mg/kg | 02.04.20 13:18 | |
| o-Xylene | <0.000344 | 0.0998 | 0.0883 | 88 | 0.0998 | 100 | 70-130 | 12 | 35 | mg/kg | 02.04.20 13:18 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 114 | | 114 | | 70-130 | % | 02.04.20 13:18 |
| 4-Bromofluorobenzene | 84 | | 93 | | 70-130 | % | 02.04.20 13:18 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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



Final 1.000

Page 716 of 970

# Chain of Custody

Work Order No: 605190

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



| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental | Company Name: | XTO Energy, Inc. |
| Address: | 3300 N. "A" Street Bld "222" | Address: | 6401 Holiday hill Rd |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Midland, TX, 79707 |
| Phone: | | Email: | |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291920B | Routine ☐ | |
| Project Location | | Rush: 24h | |
| Sampler's Name: | Kaleb Henry | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.5 | Thermometer ID | 88 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | 0 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | 2 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | Pres. Code | BTEX | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|---|
| | FS109D | S | 2/3/20 | 1311 | 10' | 1 | | X | X | X |
| | SW57 | S | 2/3/20 | 1425 | 1-4' | 1 | | X | X | X |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

**Sample Comments**

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Kaleb Henry | | 2/4/20 | 2 | | |
| 3 | | | 4 | | |
| 5 | | 0948 | 6 | | |

Revised Date 022619 Rev. 2019.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

Page 13 of 13

# Analytical Report 652220

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**13-FEB-20**

Collected By: Client

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

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

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

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

13-FEB-20

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

Reference: XENCO Report No(s): **652220**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 652220. 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. 652220 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SW58 | S | 02-12-20 11:50 | 0 - 4 ft | 652220-001 |
| SW59 | S | 02-12-20 12:03 | 0 - 4 ft | 652220-002 |
| SW60 | S | 02-12-20 12:10 | 0 - 4 ft | 652220-003 |
| SW61 | S | 02-12-20 12:25 | 0 - 4 ft | 652220-004 |
| SW62 | S | 02-12-20 12:28 | 0 - 4 ft | 652220-005 |
| SW63 | S | 02-12-20 12:42 | 0 - 4 ft | 652220-006 |
| SW64 | S | 02-12-20 12:49 | 0 - 4 ft | 652220-007 |
| SW65 | S | 02-12-20 12:52 | 0 - 4 ft | 652220-008 |
| SW66 | S | 02-12-20 12:54 | 0 - 4 ft | 652220-009 |
| FS112 | S | 02-12-20 12:55 | 3.5 - 4.5 ft | 652220-010 |
| FS113 | S | 02-12-20 12:59 | 3.5 - 4.5 ft | 652220-011 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *652220*

Report Date: *13-FEB-20*
Date Received: *02/12/2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3116353 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 652220

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed Feb-12-20 04:49 pm
**Report Date:** 13-FEB-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 652220-001 | | 652220-002 | | 652220-003 | | 652220-004 | | 652220-005 | | 652220-006 | |
| | ***Field Id:*** | SW58 | | SW59 | | SW60 | | SW61 | | SW62 | | SW63 | |
| | ***Depth:*** | 0-4 ft | | 0-4 ft | | 0-4 ft | | 0-4 ft | | 0-4 ft | | 0-4 ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-12-20 11:50 | | Feb-12-20 12:03 | | Feb-12-20 12:10 | | Feb-12-20 12:25 | | Feb-12-20 12:28 | | Feb-12-20 12:42 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | |
| | ***Analyzed:*** | Feb-13-20 00:15 | | Feb-13-20 00:35 | | Feb-13-20 00:55 | | Feb-13-20 01:16 | | Feb-13-20 01:36 | | Feb-13-20 01:57 | |
| | ***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 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00401 | 0.00401 | <0.00403 | 0.00403 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00397 | 0.00397 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| **Chloride by EPA 300** | ***Extracted:*** | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | |
| | ***Analyzed:*** | Feb-13-20 10:36 | | Feb-13-20 10:41 | | Feb-13-20 10:46 | | Feb-13-20 10:52 | | Feb-13-20 10:57 | | Feb-13-20 11:25 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | 18.8 | 10.0 | 47.3 | 10.0 | <9.98 | 9.98 | <9.92 | 9.92 | <9.98 | 9.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | |
| | ***Analyzed:*** | Feb-12-20 18:28 | | Feb-12-20 18:28 | | Feb-12-20 20:07 | | Feb-12-20 18:48 | | Feb-12-20 20:26 | | Feb-12-20 18:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.8 | 49.8 | <50.2 | 50.2 | <50.3 | 50.3 | <49.8 | 49.8 | <50.3 | 50.3 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <49.8 | 49.8 | 52.4 | 50.2 | 77.1 | 50.3 | <49.8 | 49.8 | 366 | 50.3 | 54.3 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.8 | 49.8 | <50.2 | 50.2 | <50.3 | 50.3 | <49.8 | 49.8 | <50.3 | 50.3 | <50.0 | 50.0 |
| Total GRO-DRO | | <49.8 | 49.8 | 52.4 | 50.2 | 77.1 | 50.3 | <49.8 | 49.8 | 366 | 50.3 | 54.3 | 50.0 |
| Total TPH | | <49.8 | 49.8 | 52.4 | 50.2 | 77.1 | 50.3 | <49.8 | 49.8 | 366 | 50.3 | 54.3 | 50.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 652220

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed Feb-12-20 04:49 pm
**Report Date:** 13-FEB-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 652220-007 | | 652220-008 | | 652220-009 | | 652220-010 | | 652220-011 | |
| | *Field Id:* | SW64 | | SW65 | | SW66 | | FS112 | | FS113 | |
| | *Depth:* | 0-4 ft | | 0-4 ft | | 0-4 ft | | 3.5-4.5 ft | | 3.5-4.5 ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Feb-12-20 12:49 | | Feb-12-20 12:52 | | Feb-12-20 12:54 | | Feb-12-20 12:55 | | Feb-12-20 12:59 | |
| **BTEX by EPA 8021B** | *Extracted:* | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | |
| | *Analyzed:* | Feb-13-20 02:17 | | Feb-13-20 02:37 | | Feb-13-20 02:58 | | Feb-13-20 03:18 | | Feb-13-20 04:19 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00403 | 0.00403 | <0.00402 | 0.00402 | <0.00401 | 0.00401 | <0.00401 | 0.00401 | <0.00401 | 0.00401 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | *Extracted:* | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | | Feb-13-20 07:00 | |
| | *Analyzed:* | Feb-13-20 11:30 | | Feb-13-20 11:36 | | Feb-13-20 11:41 | | Feb-13-20 11:47 | | Feb-13-20 11:52 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.92 | 9.92 | <10.1 | 10.1 | <10.0 | 10.0 | 10.1 | 10.1 | <10.1 | 10.1 |
| **TPH by SW8015 Mod** | *Extracted:* | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | | Feb-12-20 17:00 | |
| | *Analyzed:* | Feb-12-20 19:07 | | Feb-12-20 19:07 | | Feb-12-20 20:26 | | Feb-12-20 19:27 | | Feb-12-20 19:27 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <49.8 | 49.8 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.8 | 49.8 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.8 | 49.8 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.0 | 50.0 | <49.8 | 49.8 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 |
| Total TPH | | <50.0 | 50.0 | <49.8 | 49.8 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 |

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW58** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-001 | Date Collected: | 02.12.20 11.50 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 02.13.20 10.36 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 02.12.20 18.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 02.12.20 18.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 02.12.20 18.28 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 02.12.20 18.28 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 02.12.20 18.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 02.12.20 18.28 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.12.20 18.28 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW58** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-001 | Date Collected: | 02.12.20 11.50 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.13.20 00.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 02.13.20 00.15 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 00.15 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW59** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-002 | Date Collected: | 02.12.20 12.03 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **18.8** | 10.0 | mg/kg | 02.13.20 10.41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 02.12.20 18.28 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **52.4** | 50.2 | mg/kg | 02.12.20 18.28 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 02.12.20 18.28 | U | 1 |
| **Total GRO-DRO** | PHC628 | **52.4** | 50.2 | mg/kg | 02.12.20 18.28 | | 1 |
| **Total TPH** | PHC635 | **52.4** | 50.2 | mg/kg | 02.12.20 18.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.12.20 18.28 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.20 18.28 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW59** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-002 | Date Collected: | 02.12.20 12.03 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.13.20 00.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.20 00.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 02.13.20 00.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 00.35 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW60** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-003 | Date Collected: | 02.12.20 12.10 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **47.3** | 10.0 | mg/kg | 02.13.20 10.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 02.12.20 20.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **77.1** | 50.3 | mg/kg | 02.12.20 20.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 02.12.20 20.07 | U | 1 |
| **Total GRO-DRO** | PHC628 | **77.1** | 50.3 | mg/kg | 02.12.20 20.07 | | 1 |
| **Total TPH** | PHC635 | **77.1** | 50.3 | mg/kg | 02.12.20 20.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.12.20 20.07 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.20 20.07 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW60** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-003 | Date Collected: | 02.12.20 12.10 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.13.20 00.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.13.20 00.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 02.13.20 00.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 00.55 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW61** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-004 | Date Collected: | 02.12.20 12.25 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 02.13.20 10.52 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 02.12.20 18.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 02.12.20 18.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 02.12.20 18.48 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 02.12.20 18.48 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 02.12.20 18.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.12.20 18.48 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 02.12.20 18.48 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW61** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-004 | Date Collected: | 02.12.20 12.25 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.13.20 01.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.13.20 01.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 01.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 02.13.20 01.16 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **SW62** Matrix: Soil Date Received:02.12.20 16.49
Lab Sample Id: 652220-005 Date Collected: 02.12.20 12.28 Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 02.13.20 07.00 Basis: Wet Weight
Seq Number: 3116392

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 02.13.20 10.57 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 02.12.20 17.00 Basis: Wet Weight
Seq Number: 3116345

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 02.12.20 20.26 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **366** | 50.3 | mg/kg | 02.12.20 20.26 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 02.12.20 20.26 | U | 1 |
| **Total GRO-DRO** | PHC628 | **366** | 50.3 | mg/kg | 02.12.20 20.26 | | 1 |
| **Total TPH** | PHC635 | **366** | 50.3 | mg/kg | 02.12.20 20.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.12.20 20.26 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 02.12.20 20.26 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW62** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-005 | Date Collected: | 02.12.20 12.28 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.13.20 01.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.13.20 01.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 02.13.20 01.36 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 01.36 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW63** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-006 | Date Collected: | 02.12.20 12.42 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 02.13.20 11.25 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 02.12.20 18.48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **54.3** | 50.0 | mg/kg | 02.12.20 18.48 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 02.12.20 18.48 | U | 1 |
| **Total GRO-DRO** | PHC628 | **54.3** | 50.0 | mg/kg | 02.12.20 18.48 | | 1 |
| **Total TPH** | PHC635 | **54.3** | 50.0 | mg/kg | 02.12.20 18.48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 02.12.20 18.48 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 02.12.20 18.48 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW63** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-006 | Date Collected: | 02.12.20 12.42 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 02.13.20 01.57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 02.13.20 01.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 01.57 | |
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 02.13.20 01.57 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW64** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-007 | Date Collected: | 02.12.20 12.49 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 02.13.20 11.30 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 02.12.20 19.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 02.12.20 19.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 02.12.20 19.07 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 02.12.20 19.07 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 02.12.20 19.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.12.20 19.07 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 02.12.20 19.07 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW64** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-007 | Date Collected: | 02.12.20 12.49 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.13.20 02.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.13.20 02.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 02.17 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 02.13.20 02.17 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW65** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-008 | Date Collected: | 02.12.20 12.52 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 02.13.20 11.36 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 02.12.20 19.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 02.12.20 19.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 02.12.20 19.07 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 02.12.20 19.07 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 02.12.20 19.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.12.20 19.07 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.12.20 19.07 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW65** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-008 | Date Collected: | 02.12.20 12.52 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.13.20 02.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.13.20 02.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 02.13.20 02.37 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 02.37 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW66** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-009 | Date Collected: | 02.12.20 12.54 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 02.13.20 11.41 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 02.12.20 20.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 02.12.20 20.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 02.12.20 20.26 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 02.12.20 20.26 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 02.12.20 20.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.12.20 20.26 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.20 20.26 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW66** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-009 | Date Collected: | 02.12.20 12.54 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.13.20 02.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.20 02.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 02.13.20 02.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 02.58 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS112** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-010 | Date Collected: | 02.12.20 12.55 | Sample Depth: | 3.5 - 4.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.1** | 10.1 | mg/kg | 02.13.20 11.47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 02.12.20 19.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 02.12.20 19.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 02.12.20 19.27 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 02.12.20 19.27 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 02.12.20 19.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.12.20 19.27 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 02.12.20 19.27 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS112** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-010 | Date Collected: | 02.12.20 12.55 | Sample Depth: | 3.5 - 4.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.13.20 03.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.20 03.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 02.13.20 03.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 02.13.20 03.18 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS113** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-011 | Date Collected: | 02.12.20 12.59 | Sample Depth: | 3.5 - 4.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.13.20 07.00 | Basis: | Wet Weight |
| Seq Number: | 3116392 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 02.13.20 11.52 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116345 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 02.12.20 19.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 02.12.20 19.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 02.12.20 19.27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 02.12.20 19.27 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 02.12.20 19.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.12.20 19.27 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.20 19.27 | |

# Certificate of Analytical Results 652220

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS113** | Matrix: | Soil | Date Received: | 02.12.20 16.49 |
| Lab Sample Id: | 652220-011 | Date Collected: | 02.12.20 12.59 | Sample Depth: | 3.5 - 4.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 02.12.20 17.00 | Basis: | Wet Weight |
| Seq Number: | 3116353 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.13.20 04.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.20 04.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 02.13.20 04.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 02.13.20 04.19 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 652220



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116392 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696548-1-BLK — LCS Sample Id: 7696548-1-BKS — LCSD Sample Id: 7696548-1-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 | 254 | 102 | 255 | 102 | 90-110 | 0 | 20 | mg/kg | 02.13.20 09:30 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116392 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652201-001 — MS Sample Id: 652201-001 S — MSD Sample Id: 652201-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 16500 | 201 | 16700 | 100 | 16700 | 100 | 90-110 | 0 | 20 | mg/kg | 02.13.20 09:46 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116392 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652220-005 — MS Sample Id: 652220-005 S — MSD Sample Id: 652220-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 8.75 | 198 | 216 | 105 | 211 | 102 | 90-110 | 2 | 20 | mg/kg | 02.13.20 11:03 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116345 — Matrix: Solid — Date Prep: 02.12.20
MB Sample Id: 7696532-1-BLK — LCS Sample Id: 7696532-1-BKS — LCSD Sample Id: 7696532-1-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 | 800 | 80 | 893 | 89 | 70-135 | 11 | 35 | mg/kg | 02.12.20 17:28 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 728 | 73 | 978 | 98 | 70-135 | 29 | 35 | mg/kg | 02.12.20 17:28 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 126 | | 109 | | 135 | | 70-135 | % | 02.12.20 17:28 |
| o-Terphenyl | 126 | | 99 | | 130 | | 70-135 | % | 02.12.20 17:28 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116345 — Matrix: Solid — Date Prep: 02.12.20
MB Sample Id: 7696532-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 02.12.20 17:28 | |

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

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

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

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

# QC Summary 652220



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116345 — Matrix: Soil — Date Prep: 02.12.20
Parent Sample Id: 652202-003 — MS Sample Id: 652202-003 S — MSD Sample Id: 652202-003 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) | <50.1 | 1000 | 963 | 96 | 934 | 93 | 70-135 | 3 | 35 | mg/kg | 02.12.20 18:08 | |
| Diesel Range Organics (DRO) | <50.1 | 1000 | 1030 | 103 | 1020 | 102 | 70-135 | 1 | 35 | mg/kg | 02.12.20 18:08 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 112 | | 114 | | 70-135 | % | 02.12.20 18:08 |
| o-Terphenyl | 124 | | 109 | | 70-135 | % | 02.12.20 18:08 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3116353 — Matrix: Solid — Date Prep: 02.12.20
MB Sample Id: 7696547-1-BLK — LCS Sample Id: 7696547-1-BKS — LCSD Sample Id: 7696547-1-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 | 0.107 | 107 | 70-130 | 5 | 35 | mg/kg | 02.12.20 22:33 | |
| Toluene | <0.00200 | 0.100 | 0.102 | 102 | 0.0973 | 97 | 70-130 | 5 | 35 | mg/kg | 02.12.20 22:33 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0975 | 98 | 0.0930 | 93 | 71-129 | 5 | 35 | mg/kg | 02.12.20 22:33 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.190 | 95 | 0.182 | 91 | 70-135 | 4 | 35 | mg/kg | 02.12.20 22:33 | |
| o-Xylene | <0.00200 | 0.100 | 0.0969 | 97 | 0.0926 | 93 | 71-133 | 5 | 35 | mg/kg | 02.12.20 22:33 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 108 | | 108 | | 70-130 | % | 02.12.20 22:33 |
| 4-Bromofluorobenzene | 94 | | 93 | | 93 | | 70-130 | % | 02.12.20 22:33 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3116353 — Matrix: Soil — Date Prep: 02.12.20
Parent Sample Id: 652220-001 — MS Sample Id: 652220-001 S — MSD Sample Id: 652220-001 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 | 0.104 | 104 | 0.111 | 111 | 70-130 | 7 | 35 | mg/kg | 02.12.20 23:13 | |
| Toluene | <0.00199 | 0.0996 | 0.0939 | 94 | 0.100 | 100 | 70-130 | 6 | 35 | mg/kg | 02.12.20 23:13 | |
| Ethylbenzene | <0.00199 | 0.0996 | 0.0866 | 87 | 0.0935 | 94 | 71-129 | 8 | 35 | mg/kg | 02.12.20 23:13 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.160 | 80 | 0.177 | 88 | 70-135 | 10 | 35 | mg/kg | 02.12.20 23:13 | |
| o-Xylene | <0.00199 | 0.0996 | 0.0836 | 84 | 0.0914 | 91 | 71-133 | 9 | 35 | mg/kg | 02.12.20 23:13 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 108 | | 70-130 | % | 02.12.20 23:13 |
| 4-Bromofluorobenzene | 93 | | 94 | | 70-130 | % | 02.12.20 23:13 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 652220

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 (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800
www.xenco.com



| | | | |
|---|---|---|---|
| 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: | fsmith@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine: ☐ | |
| PO #: | IRP-5694 | Rush: 24 hrs | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.8 | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 11 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SW58 | S | 2/12/20 | 1150 | 0-4' | 1 | X | X | X |
| SW59 | | | 1203 | 0-4' | | | | |
| SW60 | | | 1210 | 0-4' | | | | |
| SW61 | | | 1225 | 0-4' | | | | |
| SW62 | | | 1228 | 0-4' | | | | |
| SW63 | | | 1242 | 0-4' | | | | |
| SW64 | | | 1249 | 0-4' | | | | |
| SW65 | | | 1252 | 0-4' | | | | |
| SW66 | | | 1254 | 0-4' | | | | |
| FS112 | ↓ | ↓ | 1255 | 3.5-4.5' | ↓ | ↓ | ↓ | ↓ |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | Fatima | | 2/12/20 10:49 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date101419 Rev. 2019.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# Chain of Custody

Work Order No: 052220

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 (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800
www.xenco.com



| | | | |
|---|---|---|---|
| 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: | | fsmith@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine: ☐ | |
| PO #: | IRP-5694 | Rush: 24 hrs | |
| Sampler's Name: | Fatima Smith | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS113 | S | 2/12/20 | 1259 | 3.5-4.5' | 1 | X | X | X |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |



Received by OCD: 4/24/2020 1:28:56 PM
Final 1.000
Page 33 of 34

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02.12.2020 04.49.00 PM

**Work Order #:** 652220

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : T-NM-007**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 02.12.2020

**Checklist reviewed by:** Jessica Kramer Date: 02.13.2020

Jessica Kramer

# Analytical Report 652880

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**02.20.2020**

Collected By: Client

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

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)

02.20.2020

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

Reference: XENCO Report No(s): **652880**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 652880. 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. 652880 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,

**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 652880

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SW67 | S | 02.18.2020 09:42 | 0 - 4 ft | 652880-001 |
| SW68 | S | 02.18.2020 09:44 | 0 - 4 ft | Not Analyzed |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *652880*

Report Date: *02.20.2020*
Date Received: *02.19.2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3117071 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 652880

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

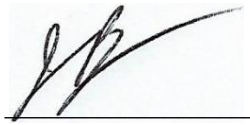
**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed 02.19.2020 11:21
**Report Date:** 02.20.2020 14:22
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 652880-001 | | | | | |
| | ***Field Id:*** | SW67 | | | | | |
| | ***Depth:*** | 0-4 ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | 02.18.2020 09:42 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 02.19.2020 14:00 | | | | | |
| | ***Analyzed:*** | 02.19.2020 21:23 | | | | | |
| | ***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:*** | 02.19.2020 17:45 | | | | | |
| | ***Analyzed:*** | 02.19.2020 18:46 | | | | | |
| | ***Units/RL:*** | mg/kg RL | | | | | |
| Chloride | | 8.32 4.97 | | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 02.19.2020 15:00 | | | | | |
| | ***Analyzed:*** | ** ** ** ** | | | | | |
| | ***Units/RL:*** | mg/kg RL | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 50.0 | | | | | |
| Diesel Range Organics (DRO) | | <50.0 50.0 | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 50.0 | | | | | |
| Total GRO-DRO | | <50.0 50.0 | | | | | |
| Total TPH | | <50.0 50.0 | | | | | |

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

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



John Builes
Project Manager

# Certificate of Analytical Results 652880

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW67** | Matrix: | Soil | Date Received: | 02.19.2020 11:21 |
| Lab Sample Id: | 652880-001 | Date Collected: | 02.18.2020 09:42 | Sample Depth: | 0 - 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 02.19.2020 17:45 | Basis: | Wet Weight |
| Seq Number: | 3117058 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **8.32** | 4.97 | mg/kg | 02.19.2020 18:46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.19.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3117094 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 02.19.2020 14:48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 02.19.2020 14:48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 02.19.2020 14:48 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 02.19.2020 14:48 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 02.19.2020 14:48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 02.19.2020 14:48 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 02.19.2020 14:48 | |

# Certificate of Analytical Results 652880

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW67** | Matrix: | Soil | Date Received: | 02.19.2020 11:21 |
| Lab Sample Id: | 652880-001 | Date Collected: | 02.18.2020 09:42 | Sample Depth: | 0 - 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 02.19.2020 14:00 | Basis: | Wet Weight |
| Seq Number: | 3117071 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.19.2020 21:23 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.19.2020 21:23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 02.19.2020 21:23 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 02.19.2020 21:23 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit. **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

# QC Summary 652880

## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117058 — Matrix: Solid — Date Prep: 02.19.2020
MB Sample Id: 7697028-1-BLK — LCS Sample Id: 7697028-1-BKS — LCSD Sample Id: 7697028-1-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 | 249 | 100 | 250 | 100 | 90-110 | 0 | 20 | mg/kg | 02.19.2020 18:35 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117058 — Matrix: Soil — Date Prep: 02.19.2020
Parent Sample Id: 652873-008 — MS Sample Id: 652873-008 S — MSD Sample Id: 652873-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 144 | 250 | 384 | 96 | 395 | 100 | 90-110 | 3 | 20 | mg/kg | 02.19.2020 20:05 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117058 — Matrix: Soil — Date Prep: 02.19.2020
Parent Sample Id: 652880-001 — MS Sample Id: 652880-001 S — MSD Sample Id: 652880-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 8.32 | 249 | 262 | 102 | 260 | 101 | 90-110 | 1 | 20 | mg/kg | 02.19.2020 18:51 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3117094 — Matrix: Solid — Date Prep: 02.19.2020
MB Sample Id: 7697019-1-BLK — LCS Sample Id: 7697019-1-BKS — LCSD Sample Id: 7697019-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 825 | 83 | 887 | 89 | 70-135 | 7 | 20 | mg/kg | 02.19.2020 14:11 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 912 | 91 | 985 | 99 | 70-135 | 8 | 20 | mg/kg | 02.19.2020 14:11 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 81 | | 100 | | 113 | | 70-135 | % | 02.19.2020 14:11 |
| o-Terphenyl | 82 | | 95 | | 101 | | 70-135 | % | 02.19.2020 14:11 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3117094 — Matrix: Solid — Date Prep: 02.19.2020
MB Sample Id: 7697019-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 02.19.2020 13:52 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 652880



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3117094 Matrix: Soil Date Prep: 02.19.2020
Parent Sample Id: 652880-001 MS Sample Id: 652880-001 S MSD Sample Id: 652880-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 997 | 829 | 83 | 820 | 82 | 70-135 | 1 | 20 | mg/kg | 02.19.2020 15:07 | |
| Diesel Range Organics (DRO) | 20.0 | 997 | 910 | 89 | 905 | 89 | 70-135 | 1 | 20 | mg/kg | 02.19.2020 15:07 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 98 | | 97 | | 70-135 | % | 02.19.2020 15:07 |
| o-Terphenyl | 90 | | 86 | | 70-135 | % | 02.19.2020 15:07 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117071 Matrix: Solid Date Prep: 02.19.2020
MB Sample Id: 7697062-1-BLK LCS Sample Id: 7697062-1-BKS LCSD Sample Id: 7697062-1-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 | 0.102 | 102 | 70-130 | 4 | 35 | mg/kg | 02.19.2020 18:09 | |
| Toluene | <0.00200 | 0.100 | 0.0951 | 95 | 0.0973 | 97 | 70-130 | 2 | 35 | mg/kg | 02.19.2020 18:09 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0922 | 92 | 0.100 | 100 | 70-130 | 8 | 35 | mg/kg | 02.19.2020 18:09 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.171 | 86 | 0.193 | 97 | 70-130 | 12 | 35 | mg/kg | 02.19.2020 18:09 | |
| o-Xylene | <0.00200 | 0.100 | 0.0843 | 84 | 0.0961 | 96 | 70-130 | 13 | 35 | mg/kg | 02.19.2020 18:09 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 95 | | 99 | | 95 | | 70-130 | % | 02.19.2020 18:09 |
| 4-Bromofluorobenzene | 96 | | 87 | | 100 | | 70-130 | % | 02.19.2020 18:09 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117071 Matrix: Soil Date Prep: 02.19.2020
Parent Sample Id: 652560-039 MS Sample Id: 652560-039 S

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0994 | 0.105 | 106 | 70-130 | mg/kg | 02.19.2020 18:50 | |
| Toluene | <0.00199 | 0.0994 | 0.0919 | 92 | 70-130 | mg/kg | 02.19.2020 18:50 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0871 | 88 | 70-130 | mg/kg | 02.19.2020 18:50 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.160 | 80 | 70-130 | mg/kg | 02.19.2020 18:50 | |
| o-Xylene | <0.00199 | 0.0994 | 0.0800 | 80 | 70-130 | mg/kg | 02.19.2020 18:50 | |

| Surrogate | MS %Rec | MS Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 98 | | 70-130 | % | 02.19.2020 18:50 |
| 4-Bromofluorobenzene | 83 | | 70-130 | % | 02.19.2020 18:50 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Page 761 of 970

# Chain of Custody

Work Order No: 605280

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



| | | | |
|---|---|---|---|
| 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine | ☐ |
| P.O. Number: | | Rush: | 24h |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes ~~No~~ | Wet Ice: | ~~Yes~~ No | |
| Temperature (°C): | 3.6 | Thermometer ID: | 88 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No ~~N/A~~ | Correction Factor: | | |
| Sample Custody Seals: | Yes No ~~N/A~~ | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SW67 | S | 2/18/20 | 942 | 0-4' | 1 | X | X | X |
| SW68 | S | 2/18/20 | 944 | 0-4' | 1 | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

Composite
Composite, HOLD

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 2/19/20 11:21 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |



Received by OCD: 4/24/2020 1:28:56 PM
Final 1.001
Page 11 of 12

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02.19.2020 11.21.00 AM

**Work Order #:** 652880

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 3.6 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **N/A** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 02.19.2020
Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 02.19.2020
Jessica Kramer

# Analytical Report 657831

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**04.06.2020**

Collected By: Client

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

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)

04.06.2020

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

Reference: XENCO Report No(s): **657831**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 657831. 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. 657831 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS114 | S | 04.02.2020 09:10 | 1 ft | 657831-001 |
| FS115 | S | 04.02.2020 09:12 | 1 ft | 657831-002 |
| FS116 | S | 04.02.2020 09:15 | 1 ft | 657831-003 |
| FS117 | S | 04.02.2020 10:15 | 1 ft | 657831-004 |
| FS118 | S | 04.02.2020 10:17 | 1 ft | 657831-005 |
| FS119 | S | 04.02.2020 10:19 | 1 ft | 657831-006 |
| FS120 | S | 04.02.2020 10:23 | 1 ft | 657831-007 |
| FS121 | S | 04.02.2020 10:25 | 1 ft | 657831-008 |
| FS122 | S | 04.02.2020 12:38 | 1 ft | 657831-009 |
| FS123 | S | 04.02.2020 12:41 | 1 ft | 657831-010 |
| FS124 | S | 04.02.2020 13:17 | 1 ft | 657831-011 |
| FS125 | S | 04.02.2020 13:20 | 1 ft | 657831-012 |
| FS126 | S | 04.02.2020 13:22 | 1 ft | 657831-013 |
| FS127 | S | 04.02.2020 13:24 | 1 ft | 657831-014 |
| FS128 | S | 04.02.2020 13:27 | 1 ft | 657831-015 |
| FS129 | S | 04.02.2020 14:02 | 1 ft | 657831-016 |
| FS130 | S | 04.02.2020 14:06 | 1 ft | 657831-017 |
| FS131 | S | 04.02.2020 14:08 | 1 ft | 657831-018 |
| FS132 | S | 04.02.2020 14:10 | 1 ft | 657831-019 |
| FS133 | S | 04.02.2020 14:12 | 1 ft | 657831-020 |
| FS134 | S | 04.02.2020 14:14 | 1 ft | 657831-021 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *657831*

Report Date: *04.06.2020*
Date Received: *04.03.2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3122038 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 657831-014.

Batch: LBA-3122060 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3122062 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 657831-021 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Ethylbenzene 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: 657831-021.
The Laboratory Control Sample for Ethylbenzene is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 657831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 10:09
**Report Date:** 04.06.2020 16:03
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | 657831-001 | | 657831-002 | | 657831-003 | | 657831-004 | | 657831-005 | | 657831-006 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Field Id:*** | FS114 | | FS115 | | FS116 | | FS117 | | FS118 | | FS119 | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.02.2020 09:10 | | 04.02.2020 09:12 | | 04.02.2020 09:15 | | 04.02.2020 10:15 | | 04.02.2020 10:17 | | 04.02.2020 10:19 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | |
| | ***Analyzed:*** | 04.03.2020 14:53 | | 04.03.2020 15:14 | | 04.03.2020 15:34 | | 04.03.2020 15:54 | | 04.03.2020 16:14 | | 04.03.2020 16:34 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00403 | 0.00403 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00401 | 0.00401 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | |
| | ***Analyzed:*** | 04.03.2020 13:20 | | 04.03.2020 13:36 | | 04.03.2020 13:41 | | 04.03.2020 13:46 | | 04.03.2020 13:51 | | 04.03.2020 14:07 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.99 | 4.99 | <5.00 | 5.00 | <5.05 | 5.05 | 5.93 | 4.98 | 11.5 | 4.98 | 31.5 | 5.04 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | |
| | ***Analyzed:*** | 04.05.2020 12:53 | | 04.05.2020 13:59 | | 04.05.2020 14:21 | | 04.05.2020 14:43 | | 04.05.2020 15:05 | | 04.05.2020 15:26 | |
| | ***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 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total TPH | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <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.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager

# Certificate of Analysis Summary 657831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 10:09
**Report Date:** 04.06.2020 16:03
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | 657831-007 | | 657831-008 | | 657831-009 | | 657831-010 | | 657831-011 | | 657831-012 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Field Id:*** | FS120 | | FS121 | | FS122 | | FS123 | | FS124 | | FS125 | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.02.2020 10:23 | | 04.02.2020 10:25 | | 04.02.2020 12:38 | | 04.02.2020 12:41 | | 04.02.2020 13:17 | | 04.02.2020 13:20 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | |
| | ***Analyzed:*** | 04.03.2020 16:54 | | 04.03.2020 17:14 | | 04.03.2020 17:35 | | 04.03.2020 17:55 | | 04.03.2020 19:13 | | 04.03.2020 19:34 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Toluene | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00400 | 0.00400 | <0.00397 | 0.00397 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | |
| | ***Analyzed:*** | 04.03.2020 14:12 | | 04.03.2020 14:18 | | 04.03.2020 14:23 | | 04.03.2020 14:28 | | 04.03.2020 14:34 | | 04.03.2020 14:49 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <5.02 | 5.02 | 28.7 | 4.97 | <5.01 | 5.01 | 68.7 | 5.05 | 36.7 | 4.99 | 51.9 | 4.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | |
| | ***Analyzed:*** | 04.05.2020 15:48 | | 04.05.2020 16:10 | | 04.05.2020 16:32 | | 04.05.2020 16:54 | | 04.05.2020 17:37 | | 04.05.2020 17:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | 89.9 | 50.0 | <50.0 | 50.0 | 65.0 | 49.9 | <50.0 | 50.0 | 50.1 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | <49.9 | 49.9 | 89.9 | 50.0 | <50.0 | 50.0 | 65.0 | 49.9 | <50.0 | 50.0 | 50.1 | 49.9 |
| Total TPH | | <49.9 | 49.9 | 89.9 | 50.0 | <50.0 | 50.0 | 65.0 | 49.9 | <50.0 | 50.0 | 50.1 | 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 657831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 10:09
**Report Date:** 04.06.2020 16:03
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 657831-013 | | 657831-014 | | 657831-015 | | 657831-016 | | 657831-017 | | 657831-018 | |
| | ***Field Id:*** | FS126 | | FS127 | | FS128 | | FS129 | | FS130 | | FS131 | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.02.2020 13:22 | | 04.02.2020 13:24 | | 04.02.2020 13:27 | | 04.02.2020 14:02 | | 04.02.2020 14:06 | | 04.02.2020 14:08 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 11:00 | |
| | ***Analyzed:*** | 04.03.2020 19:54 | | 04.03.2020 20:14 | | 04.03.2020 20:34 | | 04.03.2020 20:54 | | 04.03.2020 21:14 | | 04.03.2020 21:34 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Toluene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00399 | 0.00399 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00396 | 0.00396 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00198 | 0.00198 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 13:00 | |
| | ***Analyzed:*** | 04.03.2020 14:55 | | 04.03.2020 15:10 | | 04.03.2020 15:16 | | 04.03.2020 15:21 | | 04.03.2020 15:26 | | 04.03.2020 15:32 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 62.2 | 5.02 | 23.9 | 5.05 | <4.97 | 4.97 | 39.8 | 5.04 | <5.02 | 5.02 | 16.5 | 5.03 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | |
| | ***Analyzed:*** | 04.05.2020 18:21 | | 04.05.2020 18:43 | | 04.05.2020 19:05 | | 04.05.2020 19:27 | | 04.05.2020 19:48 | | 04.05.2020 20:10 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | 72.2 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | 211 | 50.0 | <50.0 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total GRO-DRO | | 72.2 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | 211 | 50.0 | <50.0 | 50.0 |
| Total TPH | | 72.2 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | 211 | 50.0 | <50.0 | 50.0 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
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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 657831

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 10:09
**Report Date:** 04.06.2020 16:03
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 657831-019 | | 657831-020 | | 657831-021 | | | | | |
| | ***Field Id:*** | FS132 | | FS133 | | FS134 | | | | | |
| | ***Depth:*** | 1- ft | | 1- ft | | 1- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | 04.02.2020 14:10 | | 04.02.2020 14:12 | | 04.02.2020 14:14 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.03.2020 11:00 | | 04.03.2020 11:00 | | 04.03.2020 16:00 | | | | | |
| | ***Analyzed:*** | 04.03.2020 21:55 | | 04.03.2020 22:15 | | 04.04.2020 10:26 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00400 | 0.00400 | <0.00401 | 0.00401 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 13:00 | | 04.03.2020 13:00 | | 04.03.2020 12:50 | | | | | |
| | ***Analyzed:*** | 04.03.2020 15:37 | | 04.03.2020 15:42 | | 04.03.2020 13:21 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | <5.00 | 5.00 | 70.0 | 5.03 | 57.2 | 5.03 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 12:00 | | 04.05.2020 12:00 | | 04.05.2020 12:00 | | | | | |
| | ***Analyzed:*** | 04.05.2020 20:32 | | 04.05.2020 20:54 | | 04.06.2020 05:17 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |

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

Jessica Kramer
Project Manager

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS114** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-001 | Date Collected: | 04.02.2020 09:10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 04.03.2020 13:20 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-130 | 04.05.2020 12:53 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-130 | 04.05.2020 12:53 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS114** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-001 | Date Collected: | 04.02.2020 09:10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.03.2020 14:53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.03.2020 14:53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.03.2020 14:53 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 04.03.2020 14:53 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS115** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-002 | Date Collected: | 04.02.2020 09:12 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 04.03.2020 13:36 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-130 | 04.05.2020 13:59 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-130 | 04.05.2020 13:59 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS115** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-002 | Date Collected: | 04.02.2020 09:12 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 04.03.2020 15:14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.03.2020 15:14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 76 | % | 70-130 | 04.03.2020 15:14 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.03.2020 15:14 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS116** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-003 | Date Collected: | 04.02.2020 09:15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 04.03.2020 13:41 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-130 | 04.05.2020 14:21 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-130 | 04.05.2020 14:21 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS116** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-003 | Date Collected: | 04.02.2020 09:15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.03.2020 15:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 15:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 04.03.2020 15:34 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 04.03.2020 15:34 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS117** Matrix: Soil Date Received:04.03.2020 10:09
Lab Sample Id: 657831-004 Date Collected: 04.02.2020 10:15 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 04.03.2020 13:00 Basis: Wet Weight
Seq Number: 3121967

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.93** | 4.98 | mg/kg | 04.03.2020 13:46 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 12:00 Basis: Wet Weight
Seq Number: 3122038

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-130 | 04.05.2020 14:43 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-130 | 04.05.2020 14:43 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS117** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-004 | Date Collected: | 04.02.2020 10:15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.03.2020 15:54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.03.2020 15:54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.03.2020 15:54 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 04.03.2020 15:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS118** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-005 | Date Collected: | 04.02.2020 10:17 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.5** | 4.98 | mg/kg | 04.03.2020 13:51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-130 | 04.05.2020 15:05 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-130 | 04.05.2020 15:05 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS118** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-005 | Date Collected: | 04.02.2020 10:17 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.03.2020 16:14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 04.03.2020 16:14 | |
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 04.03.2020 16:14 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS119** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-006 | Date Collected: | 04.02.2020 10:19 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **31.5** | 5.04 | mg/kg | 04.03.2020 14:07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-130 | 04.05.2020 15:26 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-130 | 04.05.2020 15:26 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS119** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-006 | Date Collected: | 04.02.2020 10:19 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.03.2020 16:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 16:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.03.2020 16:34 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 04.03.2020 16:34 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS120** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-007 | Date Collected: | 04.02.2020 10:23 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.02 | 5.02 | mg/kg | 04.03.2020 14:12 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 15:48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:48 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:48 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-130 | 04.05.2020 15:48 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-130 | 04.05.2020 15:48 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS120** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-007 | Date Collected: | 04.02.2020 10:23 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.03.2020 16:54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.03.2020 16:54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 04.03.2020 16:54 | |
| 4-Bromofluorobenzene | 460-00-4 | 83 | % | 70-130 | 04.03.2020 16:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS121** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-008 | Date Collected: | 04.02.2020 10:25 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **28.7** | 4.97 | mg/kg | 04.03.2020 14:18 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **89.9** | 50.0 | mg/kg | 04.05.2020 16:10 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| **Total GRO-DRO** | PHC628 | **89.9** | 50.0 | mg/kg | 04.05.2020 16:10 | | 1 |
| **Total TPH** | PHC635 | **89.9** | 50.0 | mg/kg | 04.05.2020 16:10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-130 | 04.05.2020 16:10 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-130 | 04.05.2020 16:10 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS121** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-008 | Date Collected: | 04.02.2020 10:25 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.03.2020 17:14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.03.2020 17:14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 04.03.2020 17:14 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 04.03.2020 17:14 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS122** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-009 | Date Collected: | 04.02.2020 12:38 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.01 | 5.01 | mg/kg | 04.03.2020 14:23 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-130 | 04.05.2020 16:32 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-130 | 04.05.2020 16:32 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS122** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-009 | Date Collected: | 04.02.2020 12:38 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.03.2020 17:35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 91 | % | 70-130 | 04.03.2020 17:35 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 04.03.2020 17:35 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS123** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-010 | Date Collected: | 04.02.2020 12:41 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **68.7** | 5.05 | mg/kg | 04.03.2020 14:28 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 16:54 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **65.0** | 49.9 | mg/kg | 04.05.2020 16:54 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 16:54 | U | 1 |
| **Total GRO-DRO** | PHC628 | **65.0** | 49.9 | mg/kg | 04.05.2020 16:54 | | 1 |
| **Total TPH** | PHC635 | **65.0** | 49.9 | mg/kg | 04.05.2020 16:54 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-130 | 04.05.2020 16:54 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-130 | 04.05.2020 16:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS123** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-010 | Date Collected: | 04.02.2020 12:41 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.03.2020 17:55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 17:55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.03.2020 17:55 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.03.2020 17:55 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS124** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-011 | Date Collected: | 04.02.2020 13:17 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **36.7** | 4.99 | mg/kg | 04.03.2020 14:34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-130 | 04.05.2020 17:37 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-130 | 04.05.2020 17:37 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS124** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-011 | Date Collected: | 04.02.2020 13:17 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.03.2020 19:13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 19:13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 04.03.2020 19:13 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 04.03.2020 19:13 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS125** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-012 | Date Collected: | 04.02.2020 13:20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **51.9** | 4.98 | mg/kg | 04.03.2020 14:49 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **50.1** | 49.9 | mg/kg | 04.05.2020 17:59 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| **Total GRO-DRO** | PHC628 | **50.1** | 49.9 | mg/kg | 04.05.2020 17:59 | | 1 |
| **Total TPH** | PHC635 | **50.1** | 49.9 | mg/kg | 04.05.2020 17:59 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-130 | 04.05.2020 17:59 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-130 | 04.05.2020 17:59 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS125** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-012 | Date Collected: | 04.02.2020 13:20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.03.2020 19:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.03.2020 19:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 04.03.2020 19:34 | |
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 04.03.2020 19:34 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS126** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-013 | Date Collected: | 04.02.2020 13:22 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **62.2** | 5.02 | mg/kg | 04.03.2020 14:55 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 18:21 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **72.2** | 49.9 | mg/kg | 04.05.2020 18:21 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 18:21 | U | 1 |
| **Total GRO-DRO** | PHC628 | **72.2** | 49.9 | mg/kg | 04.05.2020 18:21 | | 1 |
| **Total TPH** | PHC635 | **72.2** | 49.9 | mg/kg | 04.05.2020 18:21 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-130 | 04.05.2020 18:21 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-130 | 04.05.2020 18:21 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS126** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-013 | Date Collected: | 04.02.2020 13:22 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.03.2020 19:54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.03.2020 19:54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 04.03.2020 19:54 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 04.03.2020 19:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS127** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-014 | Date Collected: | 04.02.2020 13:24 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.9** | 5.05 | mg/kg | 04.03.2020 15:10 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 67 | % | 70-130 | 04.05.2020 18:43 | ** |
| o-Terphenyl | 84-15-1 | 74 | % | 70-130 | 04.05.2020 18:43 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS127** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-014 | Date Collected: | 04.02.2020 13:24 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.03.2020 20:14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.03.2020 20:14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 04.03.2020 20:14 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 04.03.2020 20:14 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS128** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-015 | Date Collected: | 04.02.2020 13:27 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.97 | 4.97 | mg/kg | 04.03.2020 15:16 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-130 | 04.05.2020 19:05 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-130 | 04.05.2020 19:05 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS128** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-015 | Date Collected: | 04.02.2020 13:27 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.03.2020 20:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 88 | % | 70-130 | 04.03.2020 20:34 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 04.03.2020 20:34 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS129** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-016 | Date Collected: | 04.02.2020 14:02 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.8** | 5.04 | mg/kg | 04.03.2020 15:21 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 122 | % | 70-130 | 04.05.2020 19:27 | |
| o-Terphenyl | 84-15-1 | 130 | % | 70-130 | 04.05.2020 19:27 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS129** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-016 | Date Collected: | 04.02.2020 14:02 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.03.2020 20:54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 20:54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 04.03.2020 20:54 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.03.2020 20:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS130** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-017 | Date Collected: | 04.02.2020 14:06 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.02 | 5.02 | mg/kg | 04.03.2020 15:26 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **211** | 50.0 | mg/kg | 04.05.2020 19:48 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| **Total GRO-DRO** | PHC628 | **211** | 50.0 | mg/kg | 04.05.2020 19:48 | | 1 |
| **Total TPH** | PHC635 | **211** | 50.0 | mg/kg | 04.05.2020 19:48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-130 | 04.05.2020 19:48 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-130 | 04.05.2020 19:48 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS130** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-017 | Date Collected: | 04.02.2020 14:06 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.03.2020 21:14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.03.2020 21:14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 89 | % | 70-130 | 04.03.2020 21:14 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 04.03.2020 21:14 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS131** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-018 | Date Collected: | 04.02.2020 14:08 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.5** | 5.03 | mg/kg | 04.03.2020 15:32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-130 | 04.05.2020 20:10 | |
| o-Terphenyl | 84-15-1 | 120 | % | 70-130 | 04.05.2020 20:10 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS131** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-018 | Date Collected: | 04.02.2020 14:08 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 04.03.2020 21:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.03.2020 21:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.03.2020 21:34 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 04.03.2020 21:34 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS132** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-019 | Date Collected: | 04.02.2020 14:10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 04.03.2020 15:37 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 116 | % | 70-130 | 04.05.2020 20:32 | |
| o-Terphenyl | 84-15-1 | 121 | % | 70-130 | 04.05.2020 20:32 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS132** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-019 | Date Collected: | 04.02.2020 14:10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.03.2020 21:55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 21:55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 04.03.2020 21:55 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.03.2020 21:55 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS133** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-020 | Date Collected: | 04.02.2020 14:12 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3121967 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **70.0** | 5.03 | mg/kg | 04.03.2020 15:42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122038 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 118 | % | 70-130 | 04.05.2020 20:54 | |
| o-Terphenyl | 84-15-1 | 122 | % | 70-130 | 04.05.2020 20:54 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS133** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-020 | Date Collected: | 04.02.2020 14:12 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122060 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.03.2020 22:15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.03.2020 22:15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 04.03.2020 22:15 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.03.2020 22:15 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS134** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-021 | Date Collected: | 04.02.2020 14:14 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.03.2020 12:50 | Basis: | Wet Weight |
| Seq Number: | 3121931 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.2** | 5.03 | mg/kg | 04.03.2020 13:21 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122039 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.06.2020 05:17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.06.2020 05:17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.06.2020 05:17 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.06.2020 05:17 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.06.2020 05:17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-130 | 04.06.2020 05:17 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-130 | 04.06.2020 05:17 | |

# Certificate of Analytical Results 657831

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS134** | Matrix: | Soil | Date Received: | 04.03.2020 10:09 |
| Lab Sample Id: | 657831-021 | Date Collected: | 04.02.2020 14:14 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.03.2020 16:00 | Basis: | Wet Weight |
| Seq Number: | 3122062 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | UX | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.04.2020 10:26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.04.2020 10:26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 89 | % | 70-130 | 04.04.2020 10:26 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 04.04.2020 10:26 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit. **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

# QC Summary 657831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121931 — Matrix: Solid — Date Prep: 04.03.2020
MB Sample Id: 7700473-1-BLK — LCS Sample Id: 7700473-1-BKS — LCSD Sample Id: 7700473-1-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 | 254 | 102 | 254 | 102 | 90-110 | 0 | 20 | mg/kg | 04.03.2020 13:03 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121967 — Matrix: Solid — Date Prep: 04.03.2020
MB Sample Id: 7700471-1-BLK — LCS Sample Id: 7700471-1-BKS — LCSD Sample Id: 7700471-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 248 | 99 | 244 | 98 | 90-110 | 2 | 20 | mg/kg | 04.03.2020 13:09 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121931 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657813-011 — MS Sample Id: 657813-011 S — MSD Sample Id: 657813-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 72.5 | 252 | 336 | 105 | 337 | 105 | 90-110 | 0 | 20 | mg/kg | 04.03.2020 15:04 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121931 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657831-021 — MS Sample Id: 657831-021 S — MSD Sample Id: 657831-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 57.2 | 252 | 327 | 107 | 325 | 106 | 90-110 | 1 | 20 | mg/kg | 04.03.2020 13:28 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121967 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657831-001 — MS Sample Id: 657831-001 S — MSD Sample Id: 657831-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <4.99 | 250 | 257 | 103 | 254 | 102 | 90-110 | 1 | 20 | mg/kg | 04.03.2020 13:25 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121967 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657831-011 — MS Sample Id: 657831-011 S — MSD Sample Id: 657831-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 36.7 | 250 | 296 | 104 | 293 | 103 | 90-110 | 1 | 20 | mg/kg | 04.03.2020 14:39 | |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

# QC Summary 657831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122038 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700574-1-BLK — LCS Sample Id: 7700574-1-BKS — LCSD Sample Id: 7700574-1-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 | 1130 | 113 | 1150 | 115 | 70-130 | 2 | 20 | mg/kg | 04.05.2020 12:09 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1180 | 118 | 1200 | 120 | 70-130 | 2 | 20 | mg/kg | 04.05.2020 12:09 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 110 | | 116 | | 122 | | 70-130 | % | 04.05.2020 12:09 |
| o-Terphenyl | 117 | | 117 | | 121 | | 70-130 | % | 04.05.2020 12:09 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122039 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700577-1-BLK — LCS Sample Id: 7700577-1-BKS — LCSD Sample Id: 7700577-1-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 | 1160 | 116 | 1140 | 114 | 70-130 | 2 | 20 | mg/kg | 04.05.2020 21:59 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1190 | 119 | 1190 | 119 | 70-130 | 0 | 20 | mg/kg | 04.05.2020 21:59 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 110 | | 122 | | 118 | | 70-130 | % | 04.05.2020 21:59 |
| o-Terphenyl | 116 | | 126 | | 125 | | 70-130 | % | 04.05.2020 21:59 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122038 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700574-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.05.2020 11:47 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122039 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700577-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.05.2020 21:37 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 657831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122038 — Matrix: Soil — Date Prep: 04.05.2020
Parent Sample Id: 657831-001 — MS Sample Id: 657831-001 S — MSD Sample Id: 657831-001 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 | 1160 | 116 | 1160 | 116 | 70-130 | 0 | 20 | mg/kg | 04.05.2020 13:15 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 1230 | 123 | 1240 | 124 | 70-130 | 1 | 20 | mg/kg | 04.05.2020 13:15 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 104 | | 106 | | 70-130 | % | 04.05.2020 13:15 |
| o-Terphenyl | 105 | | 107 | | 70-130 | % | 04.05.2020 13:15 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122039 — Matrix: Soil — Date Prep: 04.05.2020
Parent Sample Id: 657813-001 — MS Sample Id: 657813-001 S — MSD Sample Id: 657813-001 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 | 1120 | 112 | 1200 | 120 | 70-130 | 7 | 20 | mg/kg | 04.05.2020 23:04 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 1210 | 121 | 1230 | 123 | 70-130 | 2 | 20 | mg/kg | 04.05.2020 23:04 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 114 | | 128 | | 70-130 | % | 04.05.2020 23:04 |
| o-Terphenyl | 120 | | 117 | | 70-130 | % | 04.05.2020 23:04 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122060 — Matrix: Solid — Date Prep: 04.03.2020
MB Sample Id: 7700611-1-BLK — LCS Sample Id: 7700611-1-BKS — LCSD Sample Id: 7700611-1-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 | 0.0964 | 96 | 0.0953 | 95 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 12:34 | |
| Toluene | <0.00200 | 0.100 | 0.0917 | 92 | 0.0909 | 91 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 12:34 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0923 | 92 | 0.0925 | 93 | 70-130 | 0 | 35 | mg/kg | 04.03.2020 12:34 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.201 | 101 | 0.202 | 101 | 70-130 | 0 | 35 | mg/kg | 04.03.2020 12:34 | |
| o-Xylene | <0.00200 | 0.100 | 0.0999 | 100 | 0.101 | 101 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 12:34 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 98 | | 98 | | 99 | | 70-130 | % | 04.03.2020 12:34 |
| 4-Bromofluorobenzene | 79 | | 101 | | 109 | | 70-130 | % | 04.03.2020 12:34 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 657831



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122062 — Matrix: Solid — Date Prep: 04.03.2020
MB Sample Id: 7700612-1-BLK — LCS Sample Id: 7700612-1-BKS — LCSD Sample Id: 7700612-1-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 | 0.0984 | 98 | 0.0905 | 91 | 70-130 | 8 | 35 | mg/kg | 04.03.2020 23:14 | |
| Toluene | <0.00200 | 0.100 | 0.0880 | 88 | 0.0825 | 83 | 70-130 | 6 | 35 | mg/kg | 04.03.2020 23:14 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0856 | 86 | 0.0817 | 82 | 70-130 | 5 | 35 | mg/kg | 04.03.2020 23:14 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.184 | 92 | 0.176 | 88 | 70-130 | 4 | 35 | mg/kg | 04.03.2020 23:14 | |
| o-Xylene | <0.00200 | 0.100 | 0.0956 | 96 | 0.0913 | 91 | 70-130 | 5 | 35 | mg/kg | 04.03.2020 23:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 96 | | 101 | | 98 | | 70-130 | % | 04.03.2020 23:14 |
| 4-Bromofluorobenzene | 91 | | 112 | | 111 | | 70-130 | % | 04.03.2020 23:14 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122060 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657831-001 — MS Sample Id: 657831-001 S — MSD Sample Id: 657831-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0992 | 0.103 | 104 | 0.103 | 102 | 70-130 | 0 | 35 | mg/kg | 04.03.2020 13:15 | |
| Toluene | <0.00198 | 0.0992 | 0.0948 | 96 | 0.0935 | 93 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 13:15 | |
| Ethylbenzene | <0.00198 | 0.0992 | 0.0954 | 96 | 0.0939 | 93 | 70-130 | 2 | 35 | mg/kg | 04.03.2020 13:15 | |
| m,p-Xylenes | <0.00397 | 0.198 | 0.206 | 104 | 0.204 | 101 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 13:15 | |
| o-Xylene | <0.00198 | 0.0992 | 0.101 | 102 | 0.102 | 101 | 70-130 | 1 | 35 | mg/kg | 04.03.2020 13:15 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 101 | | 70-130 | % | 04.03.2020 13:15 |
| 4-Bromofluorobenzene | 104 | | 107 | | 70-130 | % | 04.03.2020 13:15 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122062 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657831-021 — MS Sample Id: 657831-021 S — MSD Sample Id: 657831-021 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 | 0.0922 | 92 | 0.0860 | 86 | 70-130 | 7 | 35 | mg/kg | 04.03.2020 23:54 | |
| Toluene | <0.00200 | 0.0998 | 0.0806 | 81 | 0.0748 | 75 | 70-130 | 7 | 35 | mg/kg | 04.03.2020 23:54 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.0642 | 64 | 0.0607 | 61 | 70-130 | 6 | 35 | mg/kg | 04.03.2020 23:54 | X |
| m,p-Xylenes | <0.00399 | 0.200 | 0.157 | 79 | 0.150 | 75 | 70-130 | 5 | 35 | mg/kg | 04.03.2020 23:54 | |
| o-Xylene | <0.00200 | 0.0998 | 0.0856 | 86 | 0.0814 | 82 | 70-130 | 5 | 35 | mg/kg | 04.03.2020 23:54 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 102 | | 70-130 | % | 04.03.2020 23:54 |
| 4-Bromofluorobenzene | 114 | | 112 | | 70-130 | % | 04.03.2020 23:54 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 657981

XENCO LABORATORIES

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 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291208 | Routine | ☐ |
| P.O. Number: | | Rush: | 24h |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.4/0.1 | Thermometer ID | B9 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.3 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS114 | S | 4/2/20 | 0910 | 1' | 1 | X | X | X | Composite |
| FS115 | | | 0912 | | | | | | |
| FS116 | | | 0915 | | | | | | |
| FS117 | | | 1015 | | | | | | |
| FS118 | | | 1017 | | | | | | |
| FS119 | | | 1019 | | | | | | |
| FS120 | | | 1023 | | | | | | |
| FS121 | | | 1025 | | | | | | |
| FS122 | | | 1238 | | | | | | |
| FS123 | | | 1241 | | | | | | |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 605 7831

XENCO LABORATORIES

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 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01219208 | Routine ☐ | |
| P.O. Number: | | Rush: 24h | |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.4/0.1 | Thermometer ID | BG |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.3 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS124 | S | 4/2/20 | 1317 | 1' | 1 | X | X | X | Composite |
| FS125 | | | 1320 | | | | | | |
| FS126 | | | 1322 | | | | | | |
| FS127 | | | 1324 | | | | | | |
| FS128 | | | 1327 | | | | | | |
| FS129 | | | 1402 | | | | | | |
| FS130 | | | 1406 | | | | | | |
| FS131 | | | 1408 | | | | | | |
| FS132 | | | 1410 | | | | | | |
| ~~FS133~~ FS133 | | | 1412 | | | | | | |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**ANALYSIS REQUEST**

**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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 657831

XENCO LABORATORIES

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 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01291928 | Routine | ☐ |
| P.O. Number: | | Rush: | 24h |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 0.4/0.1 | Thermometer ID | R9 | |
| Received Intact: | Yes No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.3 | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS134 | S | 4/2/20 | 1414 | 1' | 1 | X | X | X |

**Work Order Notes**

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**

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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM
Final 1.000
Page 58 of 59

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 04.03.2020 10.09.00 AM

**Work Order #:** 657831

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R9**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 04.03.2020

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 04.06.2020

Jessica Kramer

# Analytical Report 657930

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**04.06.2020**

Collected By: Client

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

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)

04.06.2020

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

Reference: XENCO Report No(s): **657930**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 657930. 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. 657930 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS135 | S | 04.03.2020 10:50 | 1.5 ft | 657930-001 |
| FS136 | S | 04.03.2020 10:52 | 1.5 ft | 657930-002 |
| FS137 | S | 04.03.2020 10:54 | 1.5 ft | 657930-003 |
| FS138 | S | 04.03.2020 10:56 | 1.5 ft | 657930-004 |
| FS139 | S | 04.03.2020 10:58 | 1.5 ft | 657930-005 |
| FS140 | S | 04.03.2020 11:00 | 1.5 ft | 657930-006 |
| FS141 | S | 04.03.2020 11:02 | 1.5 ft | 657930-007 |
| FS142 | S | 04.03.2020 11:04 | 1.5 ft | 657930-008 |
| FS143 | S | 04.03.2020 11:06 | 1.5 ft | 657930-009 |
| FS144 | S | 04.03.2020 11:08 | 1.5 ft | 657930-010 |
| FS145 | S | 04.03.2020 11:44 | 1.5 ft | 657930-011 |
| FS146 | S | 04.03.2020 11:46 | 1.5 ft | 657930-012 |
| FS147 | S | 04.03.2020 11:49 | 1.5 ft | 657930-013 |
| FS148 | S | 04.03.2020 11:52 | 1.5 ft | 657930-014 |
| FS149 | S | 04.03.2020 11:54 | 1.5 ft | 657930-015 |
| FS150 | S | 04.03.2020 11:56 | 1.5 ft | 657930-016 |
| FS151 | S | 04.03.2020 12:42 | 1.5 ft | 657930-017 |
| FS152 | S | 04.03.2020 12:44 | 1.5 ft | 657930-018 |
| FS153 | S | 04.03.2020 12:46 | 1.5 ft | 657930-019 |
| FS154 | S | 04.03.2020 13:15 | 1.5 ft | 657930-020 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *657930*

Report Date: *04.06.2020*
Date Received: *04.03.2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3122070 BTEX by EPA 8021B

Lab Sample ID 657930-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 657930-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

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

Surrogate 4-Bromofluorobenzene recovered below QC limits. Samples affected are: 7700617-1-BKS.

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

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

Samples in the analytical batch are: 657930-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020

# Certificate of Analysis Summary 657930

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 16:27
**Report Date:** 04.06.2020 16:15
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | 657930-001 | | 657930-002 | | 657930-003 | | 657930-004 | | 657930-005 | | 657930-006 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Field Id:*** | FS135 | | FS136 | | FS137 | | FS138 | | FS139 | | FS140 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.03.2020 10:50 | | 04.03.2020 10:52 | | 04.03.2020 10:54 | | 04.03.2020 10:56 | | 04.03.2020 10:58 | | 04.03.2020 11:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | |
| | ***Analyzed:*** | 04.04.2020 21:04 | | 04.04.2020 21:24 | | 04.04.2020 21:44 | | 04.04.2020 22:05 | | 04.04.2020 22:25 | | 04.04.2020 22:46 | |
| | ***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 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00397 | 0.00397 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | |
| | ***Analyzed:*** | 04.03.2020 21:06 | | 04.03.2020 21:27 | | 04.03.2020 21:34 | | 04.03.2020 21:41 | | 04.03.2020 21:47 | | 04.03.2020 22:08 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 81.7 | 4.96 | 49.4 | 4.97 | 77.9 | 5.02 | 52.2 | 5.05 | 100 | 5.04 | 123 | 4.96 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | |
| | ***Analyzed:*** | 04.05.2020 12:53 | | 04.05.2020 13:59 | | 04.05.2020 14:21 | | 04.05.2020 14:43 | | 04.05.2020 15:05 | | 04.05.2020 15:26 | |
| | ***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 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | 170 | 50.0 | <50.0 | 50.0 | 307 | 49.9 | 69.2 | 50.0 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.0 | 50.0 | 170 | 50.0 | <50.0 | 50.0 | 307 | 49.9 | 69.2 | 50.0 | <49.9 | 49.9 |
| Total TPH | | <50.0 | 50.0 | 170 | 50.0 | <50.0 | 50.0 | 307 | 49.9 | 69.2 | 50.0 | <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.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager

# Certificate of Analysis Summary 657930

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 16:27
**Report Date:** 04.06.2020 16:15
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 657930-007 | | 657930-008 | | 657930-009 | | 657930-010 | | 657930-011 | | 657930-012 | |
| | ***Field Id:*** | FS141 | | FS142 | | FS143 | | FS144 | | FS145 | | FS146 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.03.2020 11:02 | | 04.03.2020 11:04 | | 04.03.2020 11:06 | | 04.03.2020 11:08 | | 04.03.2020 11:44 | | 04.03.2020 11:46 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | |
| | ***Analyzed:*** | 04.04.2020 23:06 | | 04.04.2020 23:27 | | 04.04.2020 23:47 | | 04.05.2020 00:07 | | 04.05.2020 01:30 | | 04.05.2020 01:50 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00396 | 0.00396 | <0.00397 | 0.00397 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | |
| | ***Analyzed:*** | 04.03.2020 22:15 | | 04.03.2020 22:22 | | 04.03.2020 22:28 | | 04.03.2020 22:35 | | 04.03.2020 22:42 | | 04.03.2020 23:03 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 200 | 5.02 | 149 | 5.00 | 47.8 | 4.99 | 26.0 | 5.02 | 27.5 | 4.97 | 35.5 | 5.01 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | |
| | ***Analyzed:*** | 04.05.2020 15:48 | | 04.05.2020 16:10 | | 04.05.2020 16:32 | | 04.05.2020 16:54 | | 04.05.2020 17:37 | | 04.05.2020 17:59 | |
| | ***Units/RL:*** | 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 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | 81.2 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 | 136 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | 81.2 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 | 136 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total TPH | | 81.2 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 | 136 | 50.0 | <50.0 | 50.0 | <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.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager

# Certificate of Analysis Summary 657930

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 16:27
**Report Date:** 04.06.2020 16:15
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | 657930-013 | | 657930-014 | | 657930-015 | | 657930-016 | | 657930-017 | | 657930-018 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Field Id:*** | FS147 | | FS148 | | FS149 | | FS150 | | FS151 | | FS152 | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | | 1.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.03.2020 11:49 | | 04.03.2020 11:52 | | 04.03.2020 11:54 | | 04.03.2020 11:56 | | 04.03.2020 12:42 | | 04.03.2020 12:44 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | | 04.04.2020 11:30 | |
| | ***Analyzed:*** | 04.05.2020 02:11 | | 04.05.2020 02:31 | | 04.05.2020 02:51 | | 04.05.2020 03:12 | | 04.05.2020 03:32 | | 04.05.2020 03:53 | |
| | ***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 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00399 | 0.00399 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | | 04.03.2020 18:15 | |
| | ***Analyzed:*** | 04.03.2020 23:10 | | 04.03.2020 23:30 | | 04.03.2020 23:37 | | 04.03.2020 23:44 | | 04.03.2020 23:51 | | 04.03.2020 23:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 25.3 | 5.05 | 15.8 | 5.02 | 20.4 | 4.98 | 38.4 | 5.03 | 59.6 | 5.03 | 70.0 | 5.01 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | | 04.05.2020 11:00 | |
| | ***Analyzed:*** | 04.05.2020 18:21 | | 04.05.2020 18:43 | | 04.05.2020 19:05 | | 04.05.2020 19:27 | | 04.05.2020 19:48 | | 04.05.2020 20:10 | |
| | ***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 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |
| Total TPH | | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
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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 657930

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri 04.03.2020 16:27
**Report Date:** 04.06.2020 16:15
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 657930-019 | | 657930-020 | | | | | |
| | ***Field Id:*** | FS153 | | FS154 | | | | | |
| | ***Depth:*** | 1.5- ft | | 1.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | 04.03.2020 12:46 | | 04.03.2020 13:15 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.04.2020 11:30 | | 04.04.2020 11:30 | | | | | |
| | ***Analyzed:*** | 04.05.2020 04:13 | | 04.05.2020 04:34 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00399 | 0.00399 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | 04.03.2020 18:15 | | 04.03.2020 18:15 | | | | | |
| | ***Analyzed:*** | 04.04.2020 00:04 | | 04.04.2020 00:11 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | <4.96 | 4.96 | <5.00 | 5.00 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.05.2020 11:00 | | 04.05.2020 11:00 | | | | | |
| | ***Analyzed:*** | 04.05.2020 20:32 | | 04.05.2020 20:54 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | | | | |
| Diesel Range Organics (DRO) | | 110 | 49.9 | 130 | 50.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 50.0 | 49.9 | <50.0 | 50.0 | | | | |
| Total GRO-DRO | | 110 | 49.9 | 130 | 50.0 | | | | |
| Total TPH | | 160 | 49.9 | 130 | 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.
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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Manager

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS135** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-001 | Date Collected: | 04.03.2020 10:50 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **81.7** | 4.96 | mg/kg | 04.03.2020 21:06 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 12:53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-130 | 04.05.2020 12:53 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-130 | 04.05.2020 12:53 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS135** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-001 | Date Collected: | 04.03.2020 10:50 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | UFX | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | UFX | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | UXF | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.04.2020 21:04 | UXF | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | UFX | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.04.2020 21:04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 04.04.2020 21:04 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 04.04.2020 21:04 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS136** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-002 | Date Collected: | 04.03.2020 10:52 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **49.4** | 4.97 | mg/kg | 04.03.2020 21:27 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **170** | 50.0 | mg/kg | 04.05.2020 13:59 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 13:59 | U | 1 |
| **Total GRO-DRO** | PHC628 | **170** | 50.0 | mg/kg | 04.05.2020 13:59 | | 1 |
| **Total TPH** | PHC635 | **170** | 50.0 | mg/kg | 04.05.2020 13:59 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.05.2020 13:59 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.05.2020 13:59 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS136** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-002 | Date Collected: | 04.03.2020 10:52 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.04.2020 21:24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.04.2020 21:24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.04.2020 21:24 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 04.04.2020 21:24 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS137** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-003 | Date Collected: | 04.03.2020 10:54 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **77.9** | 5.02 | mg/kg | 04.03.2020 21:34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 14:21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-130 | 04.05.2020 14:21 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.05.2020 14:21 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS137** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-003 | Date Collected: | 04.03.2020 10:54 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.04.2020 21:44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.04.2020 21:44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 04.04.2020 21:44 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 04.04.2020 21:44 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS138** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-004 | Date Collected: | 04.03.2020 10:56 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **52.2** | 5.05 | mg/kg | 04.03.2020 21:41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **307** | 49.9 | mg/kg | 04.05.2020 14:43 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 14:43 | U | 1 |
| **Total GRO-DRO** | PHC628 | **307** | 49.9 | mg/kg | 04.05.2020 14:43 | | 1 |
| **Total TPH** | PHC635 | **307** | 49.9 | mg/kg | 04.05.2020 14:43 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-130 | 04.05.2020 14:43 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-130 | 04.05.2020 14:43 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS138** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-004 | Date Collected: | 04.03.2020 10:56 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.04.2020 22:05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.04.2020 22:05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 04.04.2020 22:05 | |
| 1,4-Difluorobenzene | 540-36-3 | 112 | % | 70-130 | 04.04.2020 22:05 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS139** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-005 | Date Collected: | 04.03.2020 10:58 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **100** | 5.04 | mg/kg | 04.03.2020 21:47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **69.2** | 50.0 | mg/kg | 04.05.2020 15:05 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 15:05 | U | 1 |
| **Total GRO-DRO** | PHC628 | **69.2** | 50.0 | mg/kg | 04.05.2020 15:05 | | 1 |
| **Total TPH** | PHC635 | **69.2** | 50.0 | mg/kg | 04.05.2020 15:05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.05.2020 15:05 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.05.2020 15:05 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS139** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-005 | Date Collected: | 04.03.2020 10:58 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.04.2020 22:25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.04.2020 22:25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 04.04.2020 22:25 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.04.2020 22:25 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS140** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-006 Date Collected: 04.03.2020 11:00 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **123** | 4.96 | mg/kg | 04.03.2020 22:08 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 15:26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-130 | 04.05.2020 15:26 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.05.2020 15:26 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS140** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-006 | Date Collected: | 04.03.2020 11:00 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.04.2020 22:46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.04.2020 22:46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 04.04.2020 22:46 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 04.04.2020 22:46 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS141** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-007 | Date Collected: | 04.03.2020 11:02 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **200** | 5.02 | mg/kg | 04.03.2020 22:15 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 04.05.2020 15:48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **81.2** | 49.8 | mg/kg | 04.05.2020 15:48 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 04.05.2020 15:48 | U | 1 |
| **Total GRO-DRO** | PHC628 | **81.2** | 49.8 | mg/kg | 04.05.2020 15:48 | | 1 |
| **Total TPH** | PHC635 | **81.2** | 49.8 | mg/kg | 04.05.2020 15:48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-130 | 04.05.2020 15:48 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-130 | 04.05.2020 15:48 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS141** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-007 | Date Collected: | 04.03.2020 11:02 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.04.2020 23:06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.04.2020 23:06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 04.04.2020 23:06 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 04.04.2020 23:06 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS142** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-008 Date Collected: 04.03.2020 11:04 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **149** | 5.00 | mg/kg | 04.03.2020 22:22 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-130 | 04.05.2020 16:10 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-130 | 04.05.2020 16:10 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS142** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-008 | Date Collected: | 04.03.2020 11:04 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 04.04.2020 23:27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 04.04.2020 23:27 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.04.2020 23:27 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS143** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-009 Date Collected: 04.03.2020 11:06 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **47.8** | 4.99 | mg/kg | 04.03.2020 22:28 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-130 | 04.05.2020 16:32 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.05.2020 16:32 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS143** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-009 | Date Collected: | 04.03.2020 11:06 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.04.2020 23:47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.04.2020 23:47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 04.04.2020 23:47 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 04.04.2020 23:47 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS144** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-010 Date Collected: 04.03.2020 11:08 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **26.0** | 5.02 | mg/kg | 04.03.2020 22:35 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:54 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **136** | 50.0 | mg/kg | 04.05.2020 16:54 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 16:54 | U | 1 |
| **Total GRO-DRO** | PHC628 | **136** | 50.0 | mg/kg | 04.05.2020 16:54 | | 1 |
| **Total TPH** | PHC635 | **136** | 50.0 | mg/kg | 04.05.2020 16:54 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.05.2020 16:54 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-130 | 04.05.2020 16:54 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS144** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-010 | Date Collected: | 04.03.2020 11:08 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.05.2020 00:07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.05.2020 00:07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 04.05.2020 00:07 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.05.2020 00:07 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS145** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-011 | Date Collected: | 04.03.2020 11:44 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **27.5** | 4.97 | mg/kg | 04.03.2020 22:42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 17:37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-130 | 04.05.2020 17:37 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-130 | 04.05.2020 17:37 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS145** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-011 | Date Collected: | 04.03.2020 11:44 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.05.2020 01:30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.05.2020 01:30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 04.05.2020 01:30 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 04.05.2020 01:30 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS146** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-012 | Date Collected: | 04.03.2020 11:46 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **35.5** | 5.01 | mg/kg | 04.03.2020 23:03 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 17:59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.05.2020 17:59 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-130 | 04.05.2020 17:59 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS146** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-012 | Date Collected: | 04.03.2020 11:46 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.05.2020 01:50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.05.2020 01:50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.05.2020 01:50 | |
| 4-Bromofluorobenzene | 460-00-4 | 129 | % | 70-130 | 04.05.2020 01:50 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS147** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-013 Date Collected: 04.03.2020 11:49 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **25.3** | 5.05 | mg/kg | 04.03.2020 23:10 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 18:21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:21 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.05.2020 18:21 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-130 | 04.05.2020 18:21 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS147** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-013 | Date Collected: | 04.03.2020 11:49 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.05.2020 02:11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.05.2020 02:11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 04.05.2020 02:11 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 04.05.2020 02:11 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS148** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-014 | Date Collected: | 04.03.2020 11:52 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **15.8** | 5.02 | mg/kg | 04.03.2020 23:30 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 18:43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-130 | 04.05.2020 18:43 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-130 | 04.05.2020 18:43 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS148** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-014 | Date Collected: | 04.03.2020 11:52 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.05.2020 02:31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 04.05.2020 02:31 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 04.05.2020 02:31 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS149** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-015 | Date Collected: | 04.03.2020 11:54 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **20.4** | 4.98 | mg/kg | 04.03.2020 23:37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 19:05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.05.2020 19:05 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-130 | 04.05.2020 19:05 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS149** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-015 | Date Collected: | 04.03.2020 11:54 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.05.2020 02:51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.05.2020 02:51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 04.05.2020 02:51 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 04.05.2020 02:51 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS150** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-016 Date Collected: 04.03.2020 11:56 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **38.4** | 5.03 | mg/kg | 04.03.2020 23:44 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.05.2020 19:27 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-130 | 04.05.2020 19:27 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS150** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-016 | Date Collected: | 04.03.2020 11:56 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.05.2020 03:12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.05.2020 03:12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 04.05.2020 03:12 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.05.2020 03:12 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS151** Matrix: Soil Date Received:04.03.2020 16:27
Lab Sample Id: 657930-017 Date Collected: 04.03.2020 12:42 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 04.03.2020 18:15 Basis: Wet Weight
Seq Number: 3121981

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **59.6** | 5.03 | mg/kg | 04.03.2020 23:51 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.05.2020 11:00 Basis: Wet Weight
Seq Number: 3122040

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.05.2020 19:48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-130 | 04.05.2020 19:48 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-130 | 04.05.2020 19:48 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS151** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-017 | Date Collected: | 04.03.2020 12:42 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.05.2020 03:32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.05.2020 03:32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 04.05.2020 03:32 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 04.05.2020 03:32 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS152** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-018 | Date Collected: | 04.03.2020 12:44 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **70.0** | 5.01 | mg/kg | 04.03.2020 23:57 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:10 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-130 | 04.05.2020 20:10 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-130 | 04.05.2020 20:10 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS152** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-018 | Date Collected: | 04.03.2020 12:44 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 04.05.2020 03:53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.05.2020 03:53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 04.05.2020 03:53 | |
| 1,4-Difluorobenzene | 540-36-3 | 112 | % | 70-130 | 04.05.2020 03:53 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS153** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-019 | Date Collected: | 04.03.2020 12:46 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 04.04.2020 00:04 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.05.2020 20:32 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **110** | 49.9 | mg/kg | 04.05.2020 20:32 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **50.0** | 49.9 | mg/kg | 04.05.2020 20:32 | | 1 |
| **Total GRO-DRO** | PHC628 | **110** | 49.9 | mg/kg | 04.05.2020 20:32 | | 1 |
| **Total TPH** | PHC635 | **160** | 49.9 | mg/kg | 04.05.2020 20:32 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.05.2020 20:32 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-130 | 04.05.2020 20:32 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS153** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-019 | Date Collected: | 04.03.2020 12:46 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.05.2020 04:13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 04.05.2020 04:13 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 04.05.2020 04:13 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS154** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-020 | Date Collected: | 04.03.2020 13:15 | Sample Depth: | 1.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 04.03.2020 18:15 | Basis: | Wet Weight |
| Seq Number: | 3121981 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 04.04.2020 00:11 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.05.2020 11:00 | Basis: | Wet Weight |
| Seq Number: | 3122040 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **130** | 50.0 | mg/kg | 04.05.2020 20:54 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.05.2020 20:54 | U | 1 |
| **Total GRO-DRO** | PHC628 | **130** | 50.0 | mg/kg | 04.05.2020 20:54 | | 1 |
| **Total TPH** | PHC635 | **130** | 50.0 | mg/kg | 04.05.2020 20:54 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.05.2020 20:54 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-130 | 04.05.2020 20:54 | |

# Certificate of Analytical Results 657930

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS154** | Matrix: | Soil | Date Received: | 04.03.2020 16:27 |
| Lab Sample Id: | 657930-020 | Date Collected: | 04.03.2020 13:15 | Sample Depth: | 1.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.04.2020 11:30 | Basis: | Wet Weight |
| Seq Number: | 3122070 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.05.2020 04:34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.05.2020 04:34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 112 | % | 70-130 | 04.05.2020 04:34 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 04.05.2020 04:34 | |

# 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. **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

# QC Summary 657930



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121981 — Matrix: Solid — Date Prep: 04.03.2020
MB Sample Id: 7700517-1-BLK — LCS Sample Id: 7700517-1-BKS — LCSD Sample Id: 7700517-1-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 | 255 | 102 | 256 | 102 | 90-110 | 0 | 20 | mg/kg | 04.03.2020 20:53 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121981 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657930-001 — MS Sample Id: 657930-001 S — MSD Sample Id: 657930-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 81.7 | 248 | 349 | 108 | 351 | 109 | 90-110 | 1 | 20 | mg/kg | 04.03.2020 21:13 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121981 — Matrix: Soil — Date Prep: 04.03.2020
Parent Sample Id: 657930-011 — MS Sample Id: 657930-011 S — MSD Sample Id: 657930-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 27.5 | 249 | 287 | 104 | 287 | 104 | 90-110 | 0 | 20 | mg/kg | 04.03.2020 22:49 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122040 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700579-1-BLK — LCS Sample Id: 7700579-1-BKS — LCSD Sample Id: 7700579-1-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 | 954 | 95 | 969 | 97 | 70-130 | 2 | 20 | mg/kg | 04.05.2020 12:09 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1050 | 105 | 1040 | 104 | 70-130 | 1 | 20 | mg/kg | 04.05.2020 12:09 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 95 | | 105 | | 102 | | 70-130 | % | 04.05.2020 12:09 |
| o-Terphenyl | 104 | | 110 | | 109 | | 70-130 | % | 04.05.2020 12:09 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122040 — Matrix: Solid — Date Prep: 04.05.2020
MB Sample Id: 7700579-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.05.2020 11:47 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 657930



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122040 — Matrix: Soil — Date Prep: 04.05.2020
Parent Sample Id: 657930-001 — MS Sample Id: 657930-001 S — MSD Sample Id: 657930-001 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 | 996 | 100 | 933 | 94 | 70-130 | 7 | 20 | mg/kg | 04.05.2020 13:15 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 1100 | 110 | 1000 | 100 | 70-130 | 10 | 20 | mg/kg | 04.05.2020 13:15 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 109 | | 101 | | 70-130 | % | 04.05.2020 13:15 |
| o-Terphenyl | 119 | | 108 | | 70-130 | % | 04.05.2020 13:15 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122070 — Matrix: Solid — Date Prep: 04.04.2020
MB Sample Id: 7700617-1-BLK — LCS Sample Id: 7700617-1-BKS — LCSD Sample Id: 7700617-1-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 | 0.0892 | 89 | 0.100 | 100 | 70-130 | 11 | 35 | mg/kg | 04.04.2020 18:41 | |
| Toluene | <0.00200 | 0.100 | 0.0971 | 97 | 0.100 | 100 | 70-130 | 3 | 35 | mg/kg | 04.04.2020 18:41 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.103 | 103 | 0.102 | 102 | 70-130 | 1 | 35 | mg/kg | 04.04.2020 18:41 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.200 | 100 | 0.205 | 103 | 70-130 | 2 | 35 | mg/kg | 04.04.2020 18:41 | |
| o-Xylene | <0.00200 | 0.100 | 0.0852 | 85 | 0.104 | 104 | 70-130 | 20 | 35 | mg/kg | 04.04.2020 18:41 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 105 | | 83 | | 109 | | 70-130 | % | 04.04.2020 18:41 |
| 4-Bromofluorobenzene | 118 | | 37 | ** | 106 | | 70-130 | % | 04.04.2020 18:41 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122070 — Matrix: Soil — Date Prep: 04.04.2020
Parent Sample Id: 657930-001 — MS Sample Id: 657930-001 S — MSD Sample Id: 657930-001 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 | 0.0480 | 48 | 0.0962 | 96 | 70-130 | 67 | 35 | mg/kg | 04.04.2020 19:22 | XF |
| Toluene | <0.00199 | 0.0996 | 0.0514 | 52 | 0.102 | 102 | 70-130 | 66 | 35 | mg/kg | 04.04.2020 19:22 | XF |
| Ethylbenzene | <0.00199 | 0.0996 | 0.0560 | 56 | 0.103 | 103 | 70-130 | 59 | 35 | mg/kg | 04.04.2020 19:22 | XF |
| m,p-Xylenes | <0.00398 | 0.199 | 0.100 | 50 | 0.212 | 106 | 70-130 | 72 | 35 | mg/kg | 04.04.2020 19:22 | XF |
| o-Xylene | <0.00199 | 0.0996 | 0.0575 | 58 | 0.108 | 108 | 70-130 | 61 | 35 | mg/kg | 04.04.2020 19:22 | XF |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 111 | | 106 | | 70-130 | % | 04.04.2020 19:22 |
| 4-Bromofluorobenzene | 86 | | 118 | | 70-130 | % | 04.04.2020 19:22 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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# Chain of Custody

Work Order No: US7930

XENCO LABORATORIES

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

www.xenco.com Page 1 of 2

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 02919208 | Routine | ☐ |
| P.O. Number: | | Rush: | 24h |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.2/0.3 | Thermometer ID | 89 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.3 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS135 | S | 4/3/20 | 1050 | 1.5' | 1 | X | X | X | Composite |
| FS136 | | | 1052 | | | | | | |
| FS137 | | | 1054 | | | | | | |
| FS138 | | | 1056 | | | | | | |
| FS139 | | | 1058 | | | | | | |
| FS140 | | | 1100 | | | | | | |
| FS141 | | | 1102 | | | | | | |
| FS142 | | | 1104 | | | | | | |
| FS143 | | | 1106 | | | | | | |
| FS144 | | | 1108 | | | | | | |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4/3/20 | 2 | | |
| 3 | | 1607 | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM
Final 1.000
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# Chain of Custody

Work Order No: 579130

XENCO LABORATORIES

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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 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine ☐ | |
| P.O. Number: | | Rush: 24h | |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.4 \| 0.3 | Thermometer ID | 89 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.3 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS145 | S | 4/3/20 | 1144 | 1.5' | 1 | X | X | X | Composite |
| FS146 | | | 1146 | | | | | | |
| FS147 | | | 1149 | | | | | | |
| FS148 | | | 1152 | | | | | | |
| FS149 | | | 1154 | | | | | | |
| FS150 | | | 1156 | | | | | | |
| FS151 | | | 1242 | | | | | | |
| FS152 | | | 1244 | | | | | | |
| FS153 | | | 1246 | | | | | | |
| FS154 | | | 1315 | | | | | | |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4/3/20 1629 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 04.03.2020 04.27.00 PM

**Work Order #:** 657930

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R9**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 04.03.2020
Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 04.06.2020
Jessica Kramer

# Analytical Report 658047

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**07-APR-20**

Collected By: Client

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

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

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

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

07-APR-20

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

Reference: XENCO Report No(s): **658047**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658047. 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. 658047 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**Jessica Kramer**
Project Manager

***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 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS155 | S | 04-06-20 11:35 | 3.0 ft | 658047-001 |
| FS156 | S | 04-06-20 11:37 | 3.0 ft | 658047-002 |
| FS157 | S | 04-06-20 11:39 | 3.0 ft | 658047-003 |
| FS158 | S | 04-06-20 11:41 | 3.0 ft | 658047-004 |
| FS159 | S | 04-06-20 11:43 | 3.0 ft | 658047-005 |
| FS160 | S | 04-06-20 11:45 | 3.0 ft | 658047-006 |
| FS161 | S | 04-06-20 11:47 | 3.0 ft | 658047-007 |
| FS162 | S | 04-06-20 12:55 | 3.0 ft | 658047-008 |
| FS163 | S | 04-06-20 12:57 | 3.0 ft | 658047-009 |
| FS164 | S | 04-06-20 12:59 | 3.0 ft | 658047-010 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *658047*

Report Date: *07-APR-20*
Date Received: *04/06/2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3122242 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Samples affected are: 7700717-1-BKS.

# Certificate of Analysis Summary 658047

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Apr-06-20 04:26 pm
**Report Date:** 07-APR-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 658047-001 | | 658047-002 | | 658047-003 | | 658047-004 | | 658047-005 | | 658047-006 | |
| | ***Field Id:*** | FS155 | | FS156 | | FS157 | | FS158 | | FS159 | | FS160 | |
| | ***Depth:*** | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Apr-06-20 11:35 | | Apr-06-20 11:37 | | Apr-06-20 11:39 | | Apr-06-20 11:41 | | Apr-06-20 11:43 | | Apr-06-20 11:45 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | |
| | ***Analyzed:*** | Apr-07-20 00:59 | | Apr-07-20 01:19 | | Apr-07-20 01:39 | | Apr-07-20 08:38 | | Apr-07-20 08:58 | | Apr-07-20 09:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00398 | 0.00398 | <0.00396 | 0.00396 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Apr-06-20 16:37 | | Apr-06-20 16:37 | | Apr-06-20 16:37 | | Apr-06-20 16:37 | | Apr-06-20 16:37 | | Apr-06-20 16:37 | |
| | ***Analyzed:*** | Apr-07-20 05:57 | | Apr-07-20 06:06 | | Apr-07-20 06:15 | | Apr-07-20 06:24 | | Apr-07-20 06:33 | | Apr-07-20 06:42 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.99 | 4.99 | 239 | 4.96 | 12.7 | 5.04 | 274 | 4.98 | 7.81 | 5.00 | 42.6 | 5.03 |
| **TPH by SW8015 Mod** | ***Extracted:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***Analyzed:*** | Apr-07-20 02:51 | | Apr-07-20 03:13 | | Apr-07-20 03:34 | | Apr-07-20 03:56 | | Apr-07-20 04:18 | | Apr-07-20 04:40 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Manager

# Certificate of Analysis Summary 658047

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon Apr-06-20 04:26 pm
**Report Date:** 07-APR-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | 658047-007 | | 658047-008 | | 658047-009 | | 658047-010 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Field Id:* | FS161 | | FS162 | | FS163 | | FS164 | | | |
| | *Depth:* | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | | |
| | *Sampled:* | Apr-06-20 11:47 | | Apr-06-20 12:55 | | Apr-06-20 12:57 | | Apr-06-20 12:59 | | | |
| **BTEX by EPA 8021B** | *Extracted:* | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | | Apr-06-20 16:30 | | | |
| | *Analyzed:* | Apr-07-20 09:38 | | Apr-07-20 09:58 | | Apr-07-20 11:17 | | Apr-07-20 11:37 | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| **Chloride by EPA 300** | *Extracted:* | Apr-06-20 16:37 | | Apr-06-20 16:55 | | Apr-06-20 16:55 | | Apr-06-20 16:55 | | | |
| | *Analyzed:* | Apr-07-20 06:51 | | Apr-06-20 20:31 | | Apr-06-20 20:52 | | Apr-06-20 20:59 | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Chloride | | 113 | 4.96 | 20.1 | 5.00 | 8.36 | 5.02 | <5.04 | 5.04 | | |
| **TPH by SW8015 Mod** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | | |
| | *Analyzed:* | Apr-07-20 05:02 | | Apr-07-20 05:23 | | Apr-07-20 05:45 | | Apr-06-20 20:01 | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.9 | 49.9 | | |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.9 | 49.9 | | |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.9 | 49.9 | | |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.9 | 49.9 | | |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <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.



Version: 1.%

Jessica Kramer
Project Manager

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS155** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-001 | Date Collected: | 04.06.20 11.35 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 04.07.20 05.57 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.07.20 02.51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.07.20 02.51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.07.20 02.51 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.07.20 02.51 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.07.20 02.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-130 | 04.07.20 02.51 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-130 | 04.07.20 02.51 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS155** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-001 | Date Collected: | 04.06.20 11.35 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.07.20 00.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.07.20 00.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 04.07.20 00.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 04.07.20 00.59 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS156** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-002 | Date Collected: | 04.06.20 11.37 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **239** | 4.96 | mg/kg | 04.07.20 06.06 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.07.20 03.13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.07.20 03.13 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.07.20 03.13 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.07.20 03.13 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.07.20 03.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-130 | 04.07.20 03.13 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-130 | 04.07.20 03.13 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS156** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-002 | Date Collected: | 04.06.20 11.37 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.07.20 01.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.07.20 01.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 04.07.20 01.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.07.20 01.19 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS157** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-003 | Date Collected: | 04.06.20 11.39 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.7** | 5.04 | mg/kg | 04.07.20 06.15 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.07.20 03.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.07.20 03.34 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.07.20 03.34 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.07.20 03.34 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.07.20 03.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-130 | 04.07.20 03.34 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-130 | 04.07.20 03.34 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS157** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-003 | Date Collected: | 04.06.20 11.39 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.07.20 01.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.07.20 01.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 04.07.20 01.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 04.07.20 01.39 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS158** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-004 | Date Collected: | 04.06.20 11.41 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **274** | 4.98 | mg/kg | 04.07.20 06.24 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 04.07.20 03.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 04.07.20 03.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 04.07.20 03.56 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 04.07.20 03.56 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 04.07.20 03.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-130 | 04.07.20 03.56 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-130 | 04.07.20 03.56 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS158** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-004 | Date Collected: | 04.06.20 11.41 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.07.20 08.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.07.20 08.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 04.07.20 08.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 04.07.20 08.38 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS159** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-005 | Date Collected: | 04.06.20 11.43 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **7.81** | 5.00 | mg/kg | 04.07.20 06.33 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.07.20 04.18 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.07.20 04.18 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.07.20 04.18 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.07.20 04.18 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.07.20 04.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-130 | 04.07.20 04.18 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-130 | 04.07.20 04.18 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS159** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-005 | Date Collected: | 04.06.20 11.43 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 04.07.20 08.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.07.20 08.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.07.20 08.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 04.07.20 08.58 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS160** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-006 | Date Collected: | 04.06.20 11.45 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.37 | Basis: | Wet Weight |
| Seq Number: | 3122159 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **42.6** | 5.03 | mg/kg | 04.07.20 06.42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.07.20 04.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.07.20 04.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.07.20 04.40 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.07.20 04.40 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.07.20 04.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-130 | 04.07.20 04.40 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-130 | 04.07.20 04.40 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS160** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-006 | Date Collected: | 04.06.20 11.45 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.07.20 09.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 04.07.20 09.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.07.20 09.18 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS161** Matrix: Soil Date Received:04.06.20 16.26

Lab Sample Id: 658047-007 Date Collected: 04.06.20 11.47 Sample Depth: 3.0 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 04.06.20 16.37 Basis: Wet Weight

Seq Number: 3122159

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **113** | 4.96 | mg/kg | 04.07.20 06.51 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 04.06.20 14.00 Basis: Wet Weight

Seq Number: 3122175

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.07.20 05.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.07.20 05.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.07.20 05.02 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.07.20 05.02 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.07.20 05.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-130 | 04.07.20 05.02 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-130 | 04.07.20 05.02 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS161** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-007 | Date Collected: | 04.06.20 11.47 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.07.20 09.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.07.20 09.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 04.07.20 09.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 04.07.20 09.38 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS162** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-008 | Date Collected: | 04.06.20 12.55 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.55 | Basis: | Wet Weight |
| Seq Number: | 3122162 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **20.1** | 5.00 | mg/kg | 04.06.20 20.31 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.07.20 05.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.07.20 05.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.07.20 05.23 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.07.20 05.23 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.07.20 05.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.07.20 05.23 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-130 | 04.07.20 05.23 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS162** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-008 | Date Collected: | 04.06.20 12.55 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.07.20 09.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.07.20 09.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 04.07.20 09.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 04.07.20 09.58 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS163** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-009 | Date Collected: | 04.06.20 12.57 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.55 | Basis: | Wet Weight |
| Seq Number: | 3122162 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **8.36** | 5.02 | mg/kg | 04.06.20 20.52 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 14.00 | Basis: | Wet Weight |
| Seq Number: | 3122175 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.07.20 05.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.07.20 05.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.07.20 05.45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.07.20 05.45 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.07.20 05.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-130 | 04.07.20 05.45 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-130 | 04.07.20 05.45 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS163** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-009 | Date Collected: | 04.06.20 12.57 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.07.20 11.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.07.20 11.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 04.07.20 11.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 04.07.20 11.17 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS164** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-010 | Date Collected: | 04.06.20 12.59 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.06.20 16.55 | Basis: | Wet Weight |
| Seq Number: | 3122162 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.04 | 5.04 | mg/kg | 04.06.20 20.59 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.06.20 13.00 | Basis: | Wet Weight |
| Seq Number: | 3122172 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.06.20 20.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.06.20 20.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.06.20 20.01 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.06.20 20.01 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.06.20 20.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-130 | 04.06.20 20.01 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-130 | 04.06.20 20.01 | |

# Certificate of Analytical Results 658047

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS164** | Matrix: | Soil | Date Received: | 04.06.20 16.26 |
| Lab Sample Id: | 658047-010 | Date Collected: | 04.06.20 12.59 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 04.06.20 16.30 | Basis: | Wet Weight |
| Seq Number: | 3122242 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.07.20 11.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.07.20 11.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 04.07.20 11.37 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 04.07.20 11.37 | |

# 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

# QC Summary 658047



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122159 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700651-1-BLK — LCS Sample Id: 7700651-1-BKS — LCSD Sample Id: 7700651-1-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 | 246 | 98 | 246 | 98 | 90-110 | 0 | 20 | mg/kg | 04.07.20 03:56 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122162 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700653-1-BLK — LCS Sample Id: 7700653-1-BKS — LCSD Sample Id: 7700653-1-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 | 247 | 99 | 248 | 99 | 90-110 | 0 | 20 | mg/kg | 04.06.20 20:18 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122159 — Matrix: Soil — Date Prep: 04.06.20
Parent Sample Id: 657982-001 — MS Sample Id: 657982-001 S — MSD Sample Id: 657982-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 15.9 | 251 | 266 | 100 | 265 | 99 | 90-110 | 0 | 20 | mg/kg | 04.07.20 04:12 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122159 — Matrix: Soil — Date Prep: 04.06.20
Parent Sample Id: 657994-007 — MS Sample Id: 657994-007 S — MSD Sample Id: 657994-007 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 75.4 | 253 | 337 | 103 | 338 | 104 | 90-110 | 0 | 20 | mg/kg | 04.07.20 05:25 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122162 — Matrix: Soil — Date Prep: 04.06.20
Parent Sample Id: 658047-008 — MS Sample Id: 658047-008 S — MSD Sample Id: 658047-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 20.1 | 250 | 289 | 108 | 279 | 104 | 90-110 | 4 | 20 | mg/kg | 04.06.20 20:38 | |

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

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

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

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

# QC Summary 658047



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122172 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700671-1-BLK — LCS Sample Id: 7700671-1-BKS — LCSD Sample Id: 7700671-1-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 | 878 | 88 | 884 | 88 | 70-130 | 1 | 20 | mg/kg | 04.06.20 11:19 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 956 | 96 | 944 | 94 | 70-130 | 1 | 20 | mg/kg | 04.06.20 11:19 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 95 | | 95 | | 95 | | 70-130 | % | 04.06.20 11:19 |
| o-Terphenyl | 104 | | 103 | | 105 | | 70-130 | % | 04.06.20 11:19 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122175 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700678-1-BLK — LCS Sample Id: 7700678-1-BKS — LCSD Sample Id: 7700678-1-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 | 914 | 91 | 892 | 89 | 70-130 | 2 | 20 | mg/kg | 04.06.20 21:05 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 995 | 100 | 973 | 97 | 70-130 | 2 | 20 | mg/kg | 04.06.20 21:05 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 96 | | 97 | | 96 | | 70-130 | % | 04.06.20 21:05 |
| o-Terphenyl | 107 | | 108 | | 106 | | 70-130 | % | 04.06.20 21:05 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122172 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700671-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.06.20 10:57 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122175 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700678-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.06.20 20:44 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 658047



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122172 — Matrix: Soil — Date Prep: 04.06.20
Parent Sample Id: 657840-001 — MS Sample Id: 657840-001 S — MSD Sample Id: 657840-001 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 | 932 | 93 | 931 | 93 | 70-130 | 0 | 20 | mg/kg | 04.06.20 12:24 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 980 | 98 | 1000 | 100 | 70-130 | 2 | 20 | mg/kg | 04.06.20 12:24 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 96 | | 96 | | 70-130 | % | 04.06.20 12:24 |
| o-Terphenyl | 101 | | 103 | | 70-130 | % | 04.06.20 12:24 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122175 — Matrix: Soil — Date Prep: 04.06.20
Parent Sample Id: 656969-001 — MS Sample Id: 656969-001 S — MSD Sample Id: 656969-001 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 | 869 | 87 | 963 | 96 | 70-130 | 10 | 20 | mg/kg | 04.06.20 22:10 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 934 | 94 | 1030 | 103 | 70-130 | 10 | 20 | mg/kg | 04.06.20 22:10 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 102 | | 97 | | 70-130 | % | 04.06.20 22:10 |
| o-Terphenyl | 99 | | 103 | | 70-130 | % | 04.06.20 22:10 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122242 — Matrix: Solid — Date Prep: 04.06.20
MB Sample Id: 7700717-1-BLK — LCS Sample Id: 7700717-1-BKS — LCSD Sample Id: 7700717-1-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 | 0.115 | 115 | 70-130 | 3 | 35 | mg/kg | 04.06.20 21:59 | |
| Toluene | <0.00200 | 0.100 | 0.0990 | 99 | 0.0979 | 98 | 70-130 | 1 | 35 | mg/kg | 04.06.20 21:59 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0947 | 95 | 0.0931 | 93 | 70-130 | 2 | 35 | mg/kg | 04.06.20 21:59 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.209 | 105 | 0.203 | 102 | 70-130 | 3 | 35 | mg/kg | 04.06.20 21:59 | |
| o-Xylene | <0.00200 | 0.100 | 0.107 | 107 | 0.103 | 103 | 70-130 | 4 | 35 | mg/kg | 04.06.20 21:59 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 101 | | 103 | | 70-130 | % | 04.06.20 21:59 |
| 4-Bromofluorobenzene | 106 | | 131 | ** | 115 | | 70-130 | % | 04.06.20 21:59 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 658047



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3122242 Matrix: Soil Date Prep: 04.06.20

Parent Sample Id: 657299-009 MS Sample Id: 657299-009 S MSD Sample Id: 657299-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0996 | 0.109 | 109 | 0.105 | 105 | 70-130 | 4 | 35 | mg/kg | 04.06.20 22:40 | |
| Toluene | <0.00199 | 0.0996 | 0.0929 | 93 | 0.0977 | 98 | 70-130 | 5 | 35 | mg/kg | 04.06.20 22:40 | |
| Ethylbenzene | <0.00199 | 0.0996 | 0.0907 | 91 | 0.0954 | 96 | 70-130 | 5 | 35 | mg/kg | 04.06.20 22:40 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.196 | 98 | 0.208 | 105 | 70-130 | 6 | 35 | mg/kg | 04.06.20 22:40 | |
| o-Xylene | <0.00199 | 0.0996 | 0.0983 | 99 | 0.106 | 106 | 70-130 | 8 | 35 | mg/kg | 04.06.20 22:40 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 99 | | 104 | | 70-130 | % | 04.06.20 22:40 |
| 4-Bromofluorobenzene | 120 | | 127 | | 70-130 | % | 04.06.20 22:40 |

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



Final 1.000

Page 907 of 970

# Chain of Custody

Work Order No: 680847

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



| | | | |
|---|---|---|---|
| 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐

State of Project:

Reporting:Level II ☐ Level III ☑ ST/UST ☐ RRP ☐ Level IV ☐

Deliverables: EDD ☑ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 012919208 | Routine | ☐ |
| P.O. Number: | | Rush: | 24h |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 5.3/5.0 | Thermometer ID | D9 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.5 | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS155 | S | 4/6/20 | 1135 | 3.0' | 1 | X | X | X | Composite |
| FS156 | | | 1137 | | | | | | |
| FS157 | | | 1139 | | | | | | |
| FS158 | | | 1141 | | | | | | |
| FS159 | | | 1143 | | | | | | |
| FS160 | | | 1145 | | | | | | |
| FS161 | | | 1147 | | | | | | |
| FS162 | | | 1255 | | | | | | |
| FS163 | | | 1257 | | | | | | |
| FS164 | | | 1259 | | | | | | |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 **1631 / 245.1 / 7470 / 7471** : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4/6 | 2 | | |
| 3 | | 1620 | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 04.06.2020 04.26.00 PM

**Work Order #:** 658047

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R9**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 04.06.2020
Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 04.07.2020
Jessica Kramer

# Analytical Report 658188

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**EMSU CTB**

**012919208**

**04.08.2020**

Collected By: Client

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

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)

04.08.2020

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

Reference: XENCO Report No(s): **658188**
**EMSU CTB**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658188. 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. 658188 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**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 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS 165 | S | 04.07.2020 11:50 | 3.0 ft | 658188-001 |
| FS 166 | S | 04.07.2020 11:52 | 3.0 ft | 658188-002 |
| FS 167 | S | 04.07.2020 11:54 | 3.0 ft | 658188-003 |
| FS 168 | S | 04.07.2020 11:56 | 3.0 ft | 658188-004 |
| FS 169 | S | 04.07.2020 11:58 | 3.0 ft | 658188-005 |
| FS 170 | S | 04.07.2020 12:00 | 3.0 ft | 658188-006 |
| FS 171 | S | 04.07.2020 12:45 | 3.0 ft | 658188-007 |
| FS 172 | S | 04.07.2020 12:47 | 3.0 ft | 658188-008 |
| FS 173 | S | 04.07.2020 12:49 | 3.0 ft | 658188-009 |
| FS 174 | S | 04.07.2020 12:51 | 3.0 ft | 658188-010 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: EMSU CTB***

Project ID: *012919208*
Work Order Number(s): *658188*

Report Date: *04.08.2020*
Date Received: *04.07.2020*

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3122349 BTEX by SW 8260C

Lab Sample ID 658188-001 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: 658188-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

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

# Certificate of Analysis Summary 658188

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue 04.07.2020 16:17
**Report Date:** 04.08.2020 16:39
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | 658188-001 | | 658188-002 | | 658188-003 | | 658188-004 | | 658188-005 | | 658188-006 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 658188-001 | | 658188-002 | | 658188-003 | | 658188-004 | | 658188-005 | | 658188-006 | |
| | ***Field Id:*** | FS 165 | | FS 166 | | FS 167 | | FS 168 | | FS 169 | | FS 170 | |
| | ***Depth:*** | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.07.2020 11:50 | | 04.07.2020 11:52 | | 04.07.2020 11:54 | | 04.07.2020 11:56 | | 04.07.2020 11:58 | | 04.07.2020 12:00 | |
| **BTEX by SW 8260C SUB: T104704215-19-30** | ***Extracted:*** | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | |
| | ***Analyzed:*** | 04.08.2020 12:07 | | 04.08.2020 12:26 | | 04.08.2020 12:45 | | 04.08.2020 13:03 | | 04.08.2020 13:21 | | 04.08.2020 13:39 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000994 | 0.000994 |
| Toluene | | <0.00500 | 0.00500 | <0.00500 | 0.00500 | <0.00496 | 0.00496 | <0.00500 | 0.00500 | <0.00495 | 0.00495 | <0.00497 | 0.00497 |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000994 | 0.000994 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| o-Xylene | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000994 | 0.000994 |
| Total Xylenes | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000994 | 0.000994 |
| Total BTEX | | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000994 | 0.000994 |
| **Chloride by EPA 300** | ***Extracted:*** | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | |
| | ***Analyzed:*** | 04.07.2020 16:51 | | 04.07.2020 16:57 | | 04.07.2020 17:02 | | 04.07.2020 17:07 | | 04.07.2020 17:12 | | 04.07.2020 17:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 152 | 4.98 | 209 | 4.96 | 205 | 5.04 | 117 | 4.99 | 151 | 4.96 | 131 | 4.97 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | |
| | ***Analyzed:*** | 04.08.2020 03:29 | | 04.08.2020 03:51 | | 04.08.2020 04:13 | | 04.08.2020 04:35 | | 04.08.2020 04:57 | | 04.08.2020 05:19 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | 281 | 50.0 | 75.4 | 49.9 | 153 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | 281 | 50.0 | 75.4 | 49.9 | 153 | 50.0 |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | 281 | 50.0 | 75.4 | 49.9 | 153 | 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 658188

## LT Environmental, Inc., Arvada, CO

## Project Name: EMSU CTB

**Project Id:** 012919208
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue 04.07.2020 16:17
**Report Date:** 04.08.2020 16:39
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 658188-007 | | 658188-008 | | 658188-009 | | 658188-010 | | | | | |
| | ***Field Id:*** | FS 171 | | FS 172 | | FS 173 | | FS 174 | | | | | |
| | ***Depth:*** | 3.0- ft | | 3.0- ft | | 3.0- ft | | 3.0- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | 04.07.2020 12:45 | | 04.07.2020 12:47 | | 04.07.2020 12:49 | | 04.07.2020 12:51 | | | | | |
| **BTEX by SW 8260C** | ***Extracted:*** | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | | 04.08.2020 12:00 | | | | | |
| **SUB: T104704215-19-30** | ***Analyzed:*** | 04.08.2020 13:58 | | 04.08.2020 14:17 | | 04.08.2020 14:35 | | 04.08.2020 14:53 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | | | | |
| Toluene | | <0.00500 | 0.00500 | <0.00495 | 0.00495 | <0.00496 | 0.00496 | <0.00500 | 0.00500 | | | | |
| Ethylbenzene | | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | | | | |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | | | | |
| o-Xylene | | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | | | | |
| Total Xylenes | | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | | | | |
| Total BTEX | | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000992 | 0.000992 | <0.00100 | 0.00100 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | | | | |
| | ***Analyzed:*** | 04.07.2020 17:23 | | 04.07.2020 17:28 | | 04.07.2020 17:44 | | 04.07.2020 17:49 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 191 | 5.00 | 206 | 5.00 | 170 | 5.03 | 121 | 5.05 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | 04.07.2020 16:45 | | | | | |
| | ***Analyzed:*** | 04.08.2020 05:40 | | 04.08.2020 04:57 | | 04.08.2020 05:19 | | 04.08.2020 05:40 | | | | | |
| | ***Units/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 | <50.0 | 50.0 | | | | |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.0 | 50.0 | <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 | <50.0 | 50.0 | | | | |
| Total GRO-DRO | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |
| Total TPH | | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | <50.0 | 50.0 | | | | |

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

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

Jessica Kramer
Project Manager

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 165** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-001 | Date Collected: | 04.07.2020 11:50 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **152** | 4.98 | mg/kg | 04.07.2020 16:51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.08.2020 03:29 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.08.2020 03:29 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.08.2020 03:29 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.08.2020 03:29 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.08.2020 03:29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-130 | 04.08.2020 03:29 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-130 | 04.08.2020 03:29 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 165** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-001 | Date Collected: | 04.07.2020 11:50 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:07 | UX | 1 |
| Toluene | 108-88-3 | <0.00500 | 0.00500 | mg/kg | 04.08.2020 12:07 | UX | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:07 | UX | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 04.08.2020 12:07 | UX | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:07 | UX | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:07 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 107 | % | 53-142 | 04.08.2020 12:07 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 114 | % | 53-150 | 04.08.2020 12:07 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 04.08.2020 12:07 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 166** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-002 | Date Collected: | 04.07.2020 11:52 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **209** | 4.96 | mg/kg | 04.07.2020 16:57 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 03:51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.08.2020 03:51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 03:51 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.08.2020 03:51 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.08.2020 03:51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-130 | 04.08.2020 03:51 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-130 | 04.08.2020 03:51 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 166** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-002 | Date Collected: | 04.07.2020 11:52 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:26 | U | 1 |
| Toluene | 108-88-3 | <0.00500 | 0.00500 | mg/kg | 04.08.2020 12:26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 04.08.2020 12:26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:26 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 04.08.2020 12:26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 104 | % | 53-142 | 04.08.2020 12:26 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 109 | % | 53-150 | 04.08.2020 12:26 | |
| Toluene-D8 | 2037-26-5 | 102 | % | 70-130 | 04.08.2020 12:26 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 167** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-003 | Date Collected: | 04.07.2020 11:54 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **205** | 5.04 | mg/kg | 04.07.2020 17:02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 04.08.2020 04:13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 04.08.2020 04:13 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 04.08.2020 04:13 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 04.08.2020 04:13 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 04.08.2020 04:13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-130 | 04.08.2020 04:13 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-130 | 04.08.2020 04:13 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 167** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-003 | Date Collected: | 04.07.2020 11:54 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 12:45 | U | 1 |
| Toluene | 108-88-3 | <0.00496 | 0.00496 | mg/kg | 04.08.2020 12:45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 12:45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 04.08.2020 12:45 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 12:45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 12:45 | U | 1 |
| Total BTEX | | <0.000992 | 0.000992 | mg/kg | 04.08.2020 12:45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 102 | % | 53-142 | 04.08.2020 12:45 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 108 | % | 53-150 | 04.08.2020 12:45 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 04.08.2020 12:45 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 168** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-004 | Date Collected: | 04.07.2020 11:56 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **117** | 4.99 | mg/kg | 04.07.2020 17:07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:35 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **281** | 50.0 | mg/kg | 04.08.2020 04:35 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:35 | U | 1 |
| **Total GRO-DRO** | PHC628 | **281** | 50.0 | mg/kg | 04.08.2020 04:35 | | 1 |
| **Total TPH** | PHC635 | **281** | 50.0 | mg/kg | 04.08.2020 04:35 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-130 | 04.08.2020 04:35 | |
| o-Terphenyl | 84-15-1 | 126 | % | 70-130 | 04.08.2020 04:35 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 168** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-004 | Date Collected: | 04.07.2020 11:56 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:03 | U | 1 |
| Toluene | 108-88-3 | <0.00500 | 0.00500 | mg/kg | 04.08.2020 13:03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 04.08.2020 13:03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:03 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 101 | % | 53-142 | 04.08.2020 13:03 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 112 | % | 53-150 | 04.08.2020 13:03 | |
| Toluene-D8 | 2037-26-5 | 102 | % | 70-130 | 04.08.2020 13:03 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 169** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-005 | Date Collected: | 04.07.2020 11:58 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **151** | 4.96 | mg/kg | 04.07.2020 17:12 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.08.2020 04:57 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **75.4** | 49.9 | mg/kg | 04.08.2020 04:57 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.08.2020 04:57 | U | 1 |
| **Total GRO-DRO** | PHC628 | **75.4** | 49.9 | mg/kg | 04.08.2020 04:57 | | 1 |
| **Total TPH** | PHC635 | **75.4** | 49.9 | mg/kg | 04.08.2020 04:57 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-130 | 04.08.2020 04:57 | |
| o-Terphenyl | 84-15-1 | 126 | % | 70-130 | 04.08.2020 04:57 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 169** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-005 | Date Collected: | 04.07.2020 11:58 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 13:21 | U | 1 |
| Toluene | 108-88-3 | <0.00495 | 0.00495 | mg/kg | 04.08.2020 13:21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 13:21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 04.08.2020 13:21 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 13:21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 13:21 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 04.08.2020 13:21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 101 | % | 53-142 | 04.08.2020 13:21 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 109 | % | 53-150 | 04.08.2020 13:21 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 04.08.2020 13:21 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 170** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-006 | Date Collected: | 04.07.2020 12:00 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **131** | 4.97 | mg/kg | 04.07.2020 17:18 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122297 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **153** | 50.0 | mg/kg | 04.08.2020 05:19 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| **Total GRO-DRO** | PHC628 | **153** | 50.0 | mg/kg | 04.08.2020 05:19 | | 1 |
| **Total TPH** | PHC635 | **153** | 50.0 | mg/kg | 04.08.2020 05:19 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-130 | 04.08.2020 05:19 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-130 | 04.08.2020 05:19 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 170** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-006 | Date Collected: | 04.07.2020 12:00 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 04.08.2020 13:39 | U | 1 |
| Toluene | 108-88-3 | <0.00497 | 0.00497 | mg/kg | 04.08.2020 13:39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 04.08.2020 13:39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 04.08.2020 13:39 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 04.08.2020 13:39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 04.08.2020 13:39 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 04.08.2020 13:39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 101 | % | 53-142 | 04.08.2020 13:39 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 106 | % | 53-150 | 04.08.2020 13:39 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 04.08.2020 13:39 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 171** Matrix: Soil Date Received:04.07.2020 16:17
Lab Sample Id: 658188-007 Date Collected: 04.07.2020 12:45 Sample Depth: 3.0 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 04.07.2020 16:45 Basis: Wet Weight
Seq Number: 3122288

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **191** | 5.00 | mg/kg | 04.07.2020 17:23 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.07.2020 16:45 Basis: Wet Weight
Seq Number: 3122297

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-130 | 04.08.2020 05:40 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-130 | 04.08.2020 05:40 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 171** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-007 | Date Collected: | 04.07.2020 12:45 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:58 | U | 1 |
| Toluene | 108-88-3 | <0.00500 | 0.00500 | mg/kg | 04.08.2020 13:58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 04.08.2020 13:58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:58 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 04.08.2020 13:58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 102 | % | 53-142 | 04.08.2020 13:58 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 108 | % | 53-150 | 04.08.2020 13:58 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 04.08.2020 13:58 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 172** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-008 | Date Collected: | 04.07.2020 12:47 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **206** | 5.00 | mg/kg | 04.07.2020 17:28 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122294 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.08.2020 04:57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:57 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.08.2020 04:57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-130 | 04.08.2020 04:57 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-130 | 04.08.2020 04:57 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 172** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-008 | Date Collected: | 04.07.2020 12:47 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 14:17 | U | 1 |
| Toluene | 108-88-3 | <0.00495 | 0.00495 | mg/kg | 04.08.2020 14:17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 14:17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 04.08.2020 14:17 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 14:17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 04.08.2020 14:17 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 04.08.2020 14:17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 100 | % | 53-142 | 04.08.2020 14:17 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 109 | % | 53-150 | 04.08.2020 14:17 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 04.08.2020 14:17 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 173** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-009 | Date Collected: | 04.07.2020 12:49 | Sample Depth: | 3.0 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122288 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **170** | 5.03 | mg/kg | 04.07.2020 17:44 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.07.2020 16:45 | Basis: | Wet Weight |
| Seq Number: | 3122294 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-130 | 04.08.2020 05:19 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-130 | 04.08.2020 05:19 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 173** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-009 | Date Collected: | 04.07.2020 12:49 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 14:35 | U | 1 |
| Toluene | 108-88-3 | <0.00496 | 0.00496 | mg/kg | 04.08.2020 14:35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 14:35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 04.08.2020 14:35 | U | 1 |
| o-Xylene | 95-47-6 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 14:35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000992 | 0.000992 | mg/kg | 04.08.2020 14:35 | U | 1 |
| Total BTEX | | <0.000992 | 0.000992 | mg/kg | 04.08.2020 14:35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 101 | % | 53-142 | 04.08.2020 14:35 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 110 | % | 53-150 | 04.08.2020 14:35 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 04.08.2020 14:35 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

Sample Id: **FS 174** Matrix: Soil Date Received:04.07.2020 16:17
Lab Sample Id: 658188-010 Date Collected: 04.07.2020 12:51 Sample Depth: 3.0 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 04.07.2020 16:45 Basis: Wet Weight
Seq Number: 3122288

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **121** | 5.05 | mg/kg | 04.07.2020 17:49 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 04.07.2020 16:45 Basis: Wet Weight
Seq Number: 3122294

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.08.2020 05:40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-130 | 04.08.2020 05:40 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-130 | 04.08.2020 05:40 | |

# Certificate of Analytical Results 658188

## LT Environmental, Inc., Arvada, CO

EMSU CTB

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS 174** | Matrix: | Soil | Date Received: | 04.07.2020 16:17 |
| Lab Sample Id: | 658188-010 | Date Collected: | 04.07.2020 12:51 | Sample Depth: | 3.0 ft |
| Analytical Method: | BTEX by SW 8260C | | | Prep Method: | SW5035A |
| Tech: | NAL | | | % Moisture: | |
| Analyst: | NAL | Date Prep: | 04.08.2020 12:00 | Basis: | Wet Weight |
| Seq Number: | 3122349 | | | SUB: | T104704215-19-30 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 14:53 | U | 1 |
| Toluene | 108-88-3 | <0.00500 | 0.00500 | mg/kg | 04.08.2020 14:53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 14:53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 04.08.2020 14:53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 14:53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 04.08.2020 14:53 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 04.08.2020 14:53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| Dibromofluoromethane | 1868-53-7 | 101 | % | 53-142 | 04.08.2020 14:53 | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 109 | % | 53-150 | 04.08.2020 14:53 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 04.08.2020 14:53 | |

# 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

# QC Summary 658188



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122288 — Matrix: Solid — Date Prep: 04.07.2020
MB Sample Id: 7700723-1-BLK — LCS Sample Id: 7700723-1-BKS — LCSD Sample Id: 7700723-1-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 | 246 | 98 | 246 | 98 | 90-110 | 0 | 20 | mg/kg | 04.07.2020 15:04 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122288 — Matrix: Soil — Date Prep: 04.07.2020
Parent Sample Id: 657704-001 — MS Sample Id: 657704-001 S — MSD Sample Id: 657704-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1040 | 200 | 1260 | 110 | 1260 | 110 | 90-110 | 0 | 20 | mg/kg | 04.07.2020 16:02 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122288 — Matrix: Soil — Date Prep: 04.07.2020
Parent Sample Id: 658188-006 — MS Sample Id: 658188-006 S — MSD Sample Id: 658188-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 131 | 249 | 388 | 103 | 383 | 101 | 90-110 | 1 | 20 | mg/kg | 04.07.2020 17:55 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122294 — Matrix: Solid — Date Prep: 04.07.2020
MB Sample Id: 7700742-1-BLK — LCS Sample Id: 7700742-1-BKS — LCSD Sample Id: 7700742-1-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 | 987 | 99 | 994 | 99 | 70-130 | 1 | 20 | mg/kg | 04.07.2020 21:02 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1040 | 104 | 1050 | 105 | 70-130 | 1 | 20 | mg/kg | 04.07.2020 21:02 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 105 | | 101 | | 103 | | 70-130 | % | 04.07.2020 21:02 |
| o-Terphenyl | 108 | | 103 | | 105 | | 70-130 | % | 04.07.2020 21:02 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122297 — Matrix: Solid — Date Prep: 04.07.2020
MB Sample Id: 7700740-1-BLK — LCS Sample Id: 7700740-1-BKS — LCSD Sample Id: 7700740-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 1100 | 110 | 966 | 97 | 70-130 | 13 | 20 | mg/kg | 04.07.2020 21:02 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1180 | 118 | 1060 | 106 | 70-130 | 11 | 20 | mg/kg | 04.07.2020 21:02 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 114 | | 118 | | 104 | | 70-130 | % | 04.07.2020 21:02 |
| o-Terphenyl | 128 | | 116 | | 114 | | 70-130 | % | 04.07.2020 21:02 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 658188



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122294 — Matrix: Solid — Date Prep: 04.07.2020
MB Sample Id: 7700742-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.07.2020 20:41 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122297 — Matrix: Solid — Date Prep: 04.07.2020
MB Sample Id: 7700740-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.07.2020 20:41 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122294 — Matrix: Soil — Date Prep: 04.07.2020
Parent Sample Id: 657957-001 — MS Sample Id: 657957-001 S — MSD Sample Id: 657957-001 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 | 1070 | 107 | 1040 | 104 | 70-130 | 3 | 20 | mg/kg | 04.07.2020 22:06 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 1130 | 113 | 1130 | 113 | 70-130 | 0 | 20 | mg/kg | 04.07.2020 22:06 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 100 | | 70-130 | % | 04.07.2020 22:06 |
| o-Terphenyl | 101 | | 102 | | 70-130 | % | 04.07.2020 22:06 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122297 — Matrix: Soil — Date Prep: 04.07.2020
Parent Sample Id: 657880-004 — MS Sample Id: 657880-004 S — MSD Sample Id: 657880-004 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) | <49.9 | 997 | 965 | 97 | 1030 | 103 | 70-130 | 7 | 20 | mg/kg | 04.07.2020 22:06 | |
| Diesel Range Organics (DRO) | 85.0 | 997 | 1100 | 102 | 1200 | 112 | 70-130 | 9 | 20 | mg/kg | 04.07.2020 22:06 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 110 | | 70-130 | % | 04.07.2020 22:06 |
| o-Terphenyl | 112 | | 123 | | 70-130 | % | 04.07.2020 22:06 |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 658188



## LT Environmental, Inc.

EMSU CTB

**Analytical Method:** **BTEX by SW 8260C** Prep Method: SW5035A
Seq Number: 3122349 Matrix: Solid Date Prep: 04.08.2020
MB Sample Id: 7700812-1-BLK LCS Sample Id: 7700812-1-BKS LCSD Sample Id: 7700812-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.0500 | 0.0409 | 82 | 0.0488 | 98 | 62-132 | 18 | 25 | mg/kg | 04.08.2020 09:31 | |
| Toluene | <0.00500 | 0.0500 | 0.0397 | 79 | 0.0502 | 100 | 66-124 | 23 | 25 | mg/kg | 04.08.2020 09:31 | |
| Ethylbenzene | <0.00100 | 0.0500 | 0.0414 | 83 | 0.0505 | 101 | 71-134 | 20 | 25 | mg/kg | 04.08.2020 09:31 | |
| m,p-Xylenes | <0.00200 | 0.100 | 0.0836 | 84 | 0.102 | 102 | 69-128 | 20 | 25 | mg/kg | 04.08.2020 09:31 | |
| o-Xylene | <0.00100 | 0.0500 | 0.0434 | 87 | 0.0511 | 102 | 72-131 | 16 | 25 | mg/kg | 04.08.2020 09:31 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 100 | | 100 | | 95 | | 53-142 | % | 04.08.2020 09:31 |
| 1,2-Dichloroethane-D4 | 103 | | 102 | | 98 | | 53-150 | % | 04.08.2020 09:31 |
| Toluene-D8 | 102 | | 102 | | 101 | | 70-130 | % | 04.08.2020 09:31 |

**Analytical Method:** **BTEX by SW 8260C** Prep Method: SW5035A
Seq Number: 3122349 Matrix: Soil Date Prep: 04.08.2020
Parent Sample Id: 658188-001 MS Sample Id: 658188-001 S MSD Sample Id: 658188-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000994 | 0.0497 | 0.0271 | 55 | 0.0323 | 65 | 62-132 | 18 | 25 | mg/kg | 04.08.2020 10:14 | X |
| Toluene | <0.00497 | 0.0497 | 0.0256 | 52 | 0.0313 | 63 | 66-124 | 20 | 25 | mg/kg | 04.08.2020 10:14 | X |
| Ethylbenzene | <0.000994 | 0.0497 | 0.0254 | 51 | 0.0305 | 61 | 71-134 | 18 | 25 | mg/kg | 04.08.2020 10:14 | X |
| m,p-Xylenes | <0.00199 | 0.0994 | 0.0514 | 52 | 0.0610 | 61 | 69-128 | 17 | 25 | mg/kg | 04.08.2020 10:14 | X |
| o-Xylene | <0.000994 | 0.0497 | 0.0262 | 53 | 0.0307 | 62 | 72-131 | 16 | 25 | mg/kg | 04.08.2020 10:14 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 103 | | 98 | | 53-142 | % | 04.08.2020 10:14 |
| 1,2-Dichloroethane-D4 | 110 | | 106 | | 53-150 | % | 04.08.2020 10:14 |
| Toluene-D8 | 101 | | 98 | | 70-130 | % | 04.08.2020 10:14 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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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# Chain of Custody

Work Order No: USG188

XENCO LABORATORIES

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 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: | khenry@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | EMSU CTB | Turn Around | |
| Project Number: | 01919208 | Routine ☐ | |
| P.O. Number: | | Rush: 24h | |
| Sampler's Name: | Kaleb Henry | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.6/0.5 | Thermometer ID | |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.5 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| FS165 | S | 4/7/20 | 1150 | 3.0' | 1 | X | X | X | Composite |
| FS166 | | | 1152 | | | | | | |
| FS167 | | | 1154 | | | | | | |
| FS168 | | | 1156 | | | | | | |
| FS169 | | | 1158 | | | | | | |
| FS170 | | | 1200 | | | | | | |
| FS171 | | | 1245 | | | | | | |
| FS172 | | | 1247 | | | | | | |
| FS173 | | | 1249 | | | | | | |
| FS174 | | | 1251 | | | | | | |

**Work Order Notes**

TAT starts the day recevied 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 Tl 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 1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4/7/20 | 2 | | |
| 3 | | 1617 | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 4/24/2020 1:28:56 PM

Final 1.000

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# Inter-Office Shipment



**IOS Number : 61710**

Date/Time: 04.07.2020
Lab# From: **Midland**
Lab# To: **Houston**

Created by: Brianna Teel
Delivery Priority:
Air Bill No.: 770192639143

Please send report to: Jessica Kramer
Address: 1211 W. Florida Ave
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 658188-001 | S | FS 165 | 04.07.2020 11:50 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-002 | S | FS 166 | 04.07.2020 11:52 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-003 | S | FS 167 | 04.07.2020 11:54 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-004 | S | FS 168 | 04.07.2020 11:56 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-005 | S | FS 169 | 04.07.2020 11:58 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-006 | S | FS 170 | 04.07.2020 12:00 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-007 | S | FS 171 | 04.07.2020 12:45 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-008 | S | FS 172 | 04.07.2020 12:47 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-009 | S | FS 173 | 04.07.2020 12:49 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |
| 658188-010 | S | FS 174 | 04.07.2020 12:51 | SW8260CBTEX | BTEX by SW 8260C | 04.08.2020 | 04.21.2020 | JKR | BZ BZME EBZ XYLENE | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Brianna Teel
Brianna Teel

Date Relinquished: 04.07.2020

Received By: Jhyrom Edralin
Jhyrom Edralin

Date Received: 04.08.2020

Cooler Temperature: 2.4

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Houston

**IOS #:** 61710

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**
**Temperature Measuring device used : hou-068**

**Sent By:** Brianna Teel **Date Sent:** 04.07.2020 04.24 PM

**Received By:** Jhyrom Edralin **Date Received:** 04.08.2020 08.36 AM

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 2.4 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received with appropriate temperature? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** | |
| #5 *Custody Seals Signed and dated for Containers/coolers | **Yes** | |
| #6 *IOS present? | **Yes** | |
| #7 Any missing/extra samples? | **No** | |
| #8 IOS agrees with sample label(s)/matrix? | **Yes** | |
| #9 Sample matrix/ properties agree with IOS? | **Yes** | |
| #10 Samples in proper container/ bottle? | **Yes** | |
| #11 Samples properly preserved? | **Yes** | |
| #12 Sample container(s) intact? | **Yes** | |
| #13 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #14 All samples received within hold time? | **Yes** | |

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

**Contact:** _____ **Contacted by :** _____ **Date:** _____

**Checklist reviewed by:** _____ Date: 04.08.2020

Jhyrom Edralin

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 04.07.2020 04.17.00 PM

**Work Order #:** 658188

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R9**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 04.07.2020

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 04.08.2020

Jessica Kramer

# ATTACHMENT 3: LITHOLOGIC / SOIL SAMPLING LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH01 | 10/16/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 731.8 | N | BH01A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, sharp odor, no sta |
| D | <120 | 225 | N | BH01B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, sharp odor, no sta |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| | | | |
|---|---|---|---|
| | | Identifier: BH02 | Date: 10/16/2019 |
| | | Project Name: EMSU CTB | RP Number: 1RP-5694 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | | Logged By: WM | Method: Hand Auger |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |
| Comments: | | | |

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 232 | N | BH02A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, sharp odor, no sta |
| D | <120 | 1.4 | N | BH02B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH03 | 10/16/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 8.4 | N | BH03A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 5.2 | N | BH03B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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|---|---|
| Identifier: BH04 | Date: 10/16/2019 |
| Project Name: EMSU CTB | RP Number: 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

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|---|---|---|---|
| Logged By: WM | Method: Hand Auger | | |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH04A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH04B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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|---|---|
| Identifier: BH05 | Date: 10/16/2019 |
| Project Name: EMSU CTB | RP Number: 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

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|---|---|---|---|
| Logged By: WM | Method: Hand Auger | | |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | 152 | 12.1 | N | BH05A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.8 | N | BH05B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH06 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH06A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH06B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH07 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH07A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | 144 | 0 | N | BH07B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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|---|---|
| Identifier: BH08 | Date: 10/21/2019 |
| Project Name: EMSU CTB | RP Number: 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

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|---|---|---|---|
| Logged By: WM | Method: Hand Auger | | |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH08A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH08B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| | | | | | 3 | | | |
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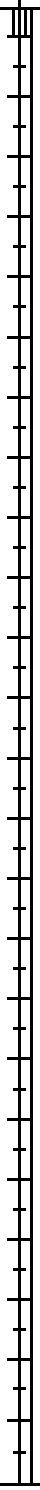
| Identifier: | Date: |
|---|---|
| BH09 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <120 | 0 | N | BH09A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH09B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |



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|---|---|---|---|
| | | Identifier: BH10 | Date: 10/21/2019 |
| | | Project Name: EMSU CTB | RP Number: 1RP-5694 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | | Logged By: WM | Method: Hand Auger |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |
| Comments: | | | |

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH10A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | 144 | 0 | N | BH10B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH11 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH11A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH11B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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|---|---|
| Identifier: BH12 | Date: 10/21/2019 |
| Project Name: EMSU CTB | RP Number: 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | | | |
|---|---|---|---|
| Logged By: WM | Method: Hand Auger | | |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH12A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH12B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH13 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH13A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH13B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH14 | 10/21/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0 | N | BH14A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0 | N | BH14B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH15 | 10/22/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 5.8 | N | BH15A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 4.3 | N | BH15B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH16 | 10/22/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 1.2 | N | BH16A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.7 | N | BH16B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH17 | 11/4/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | 152 | 3.6 | N | BH17A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 1.7 | N | BH17B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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|---|---|
| Identifier: BH18 | Date: 11/4/2019 |
| Project Name: EMSU CTB | RP Number: 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | | | |
|---|---|---|---|
| Logged By: WM | Method: Hand Auger | | |
| Lat/Long: | Field Screening: TPH, Cl- | Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | 152 | 0.4 | N | BH18A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.1 | N | BH18B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH19 | 11/4/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | 420 | 0.7 | N | BH19A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.3 | N | BH19B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH20 | 11/12/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0.1 | N | BH20A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.2 | N | BH20B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
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| Identifier: | Date: |
|---|---|
| BH21 | 11/12/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <120 | 0.3 | N | BH21A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.2 | N | BH21B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |

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| Identifier: | Date: |
|---|---|
| BH22 | 11/12/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0.2 | N | BH22A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.3 | N | BH22B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
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| Identifier: | Date: |
|---|---|
| BH23 | 11/12/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0.2 | N | BH23A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.4 | N | BH23B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| | | | | | 3 | | | |
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| Identifier: | Date: |
|---|---|
| BH24 | 11/12/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: 4" | Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | <120 | 0.3 | N | BH24A | 1 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| D | <120 | 0.3 | N | BH24B | 2 | | SP-SC | Fine SAND, Red/Brown, poor sort, some clay, dry, no odor, no stain |
| | | | | | 3 | | | |
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Received by OCD: 4/24/2020 1:28:56 PM


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| | |
|---|---|
| Identifier: BH25 | Date: 1/20/20 |
| Project Name: EMSU CTB | RP Number: |
| Logged By: WM | Method: Hand Auger |
| Lat/Long: | Field Screening: TPH |
| Hole Diameter: 4" | Total Depth: 4' |

## LITHOLOGIC / SOIL SAMPLING LOG

Comments: inline with SW18, approximately 4' to the N

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| M | – | 1.6 | N | BH25 | 0–4 | | SP | 0'-1' Fine SAND, tan, DRY, Poorly graded, No odor, No stain<br>1'-4' Fine-Medium SAND, Brown, Moist, Poorly graded, trace caliche gravel, No odor No stain |
| M | – | 1.5 | N | BH25A | 4 | | SP | Hand Auger Refusal |

W. Mag

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| Identifier: | Date: |
|---|---|
| PH01 | 10/29/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Backhoe |
|---|---|
| Lat/Long: | Field Screening: TPH, Cl- |
| Hole Diameter: | Total Depth: 3' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| D | 312 | 1.5 | N | PH01A | 1 | | SP-SC | Caliche, red/brown, poor sort. Some clay, dry, no odor, no stain. |
| D | <128 | 1.8 | N | PH01B | 2 | | SP-SC | Fine sand, red/brown, poor sort. Some clay, dry, no odor, no stain. |
| D | <128 | 0.8 | N | PH01C | 3 | | SP-SC | Fine sand, red/brown, poor sort. Some clay, dry, no odor, no stain. |
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| Identifier: | Date: |
|---|---|
| PH02 | 10/29/2019 |
| Project Name: | RP Number: |
| EMSU CTB | 1RP-5694 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Backhoe |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | TPH, Cl- | | 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 312 | 0.4 | N | PH02A | 1 | | SP-SC | Fine sand, red/brown, poor sort. Some clay, dry, no odor, no stain. |
| D | <128 | 0.6 | N | PH02B | 2 | | SP-SC | Fine sand, red/brown, poor sort. Some clay, dry, no odor, no stain. |
| | | | | | 0 | | | |
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