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

November 13, 2019

YG6DR-191113-C-1410

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

**RE: Deferral Request**
**Mis Amigos State #108H**
**Remediation Permit Number 1RP-5667**
**Lea County, New Mexico**

To Whom It May Concern:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, excavation, and soil sampling activities at the Mis Amigos State #108H (Site) in Unit P, Section 31, Township 23 South, Range 33 East, in Lea County, New Mexico (Figure 1). The purpose of the remediation activities was to address impacts to soil following an August 15, 2019 release of crude oil and produced water at the Site. Based on the excavation activities and results from the soil confirmation sampling activities, XTO is submitting this Deferral Request for no further action for Remediation Permit (RP) Number 1RP-5667 until the Site is reconstructed, and associated site features are abandoned, and/or the pipeline is abandoned.

## RELEASE BACKGROUND

On August 15, 2019, on-site contractors struck a buried flow line on the well pad. Fluids were released to the well pad surface. The line was shut in and the free liquids were recovered. Approximately 8.68 barrels (bbls) of crude oil and 0.36 bbls of produced water were released onto the caliche well pad. Vacuum trucks were dispatched to the Site to recover free-standing fluids; approximately 7.44 bbls of crude oil and 0.31 bbls of produced water 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 August 28, 2019 and was assigned RP Number 1RP-5667 (Attachment 1).

## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below grade surface (bgs) based on the nearest water well data. The nearest permitted water well with reported depth to water data is New Mexico Office of State Engineer well C 02279, located

approximately 9,307 feet northeast of the Site. The water well has a depth to groundwater of approximately 400 feet bgs. The total depth of the well is 650 feet bgs. Ground surface elevation at the water well location is 3,685 feet above mean seal level (AMSL), which is approximately 25 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a freshwater pond located approximately 8,518 feet to the northwest. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low potential karst area.

## CLOSURE CRITERIA

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

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

## SITE ASSESSMENT ACTIVITIES

On September 4, 2019, LTE personnel inspected the Site to evaluate the estimated release extent. Surficial staining was observed on the caliche well pad in the release area. LTE collected two preliminary soil assessment samples (SS01 and SS02) in the release area from a depth of 0.5 feet bgs using hand-auger equipment decontaminated prior to and between sample points.

Soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2. All soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. Based on visible staining in the release area and field screening results, soil delineation and remediation appeared to be warranted for

the release footprint. Photographic documentation was conducted during the site visit and is included in Attachment 2.

## EXCAVATION ACTIVITIES

From September 9 through 23, 2019, LTE oversaw excavation of impacted soil as indicated by visual observations, field screening results, and preliminary assessment results. Excavation activities were performed using a hydrovacuum. To direct excavation activities, LTE used visual observations and field screenings for volatile aromatic hydrocarbons and chloride. The excavation of impacted soil was limited by the presence of pipelines and electric utility lines. Trying to remove as much impacted soil as possible while complying with the XTO safety policy of remaining more than 2 feet from underground lines resulted in three separate excavations: a large central excavation (central); a western excavation (western); and an eastern excavation (eastern) shown on Figure 3.

Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the floor of each of the three excavations and from the sidewalls of the central and western excavations in accordance with NMOCD requirements. Sidewall samples were not collected from the eastern excavation, as it was only one foot in depth. 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 to form one composite sample. Four composite floor soil samples (FS01 through FS04) and six composite sidewall samples (SW01 through SW06) were collected from the excavations at depths ranging from ground surface to a maximum depth of six feet bgs. The total depth of the eastern excavation was one foot bgs, the total depth of the western excavation was five feet bgs, and total depth of the central excavation was six feet bgs. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. The locations of final excavation confirmation samples are presented on Figure 3.

The final excavation extent of the central excavation measured an estimated 680 square feet in area; the western excavation an estimated 245 square feet; and the eastern excavation an estimated 227 square feet. An estimated 205 cubic yards of impacted soil were removed during excavation. The impacted soil was transported and properly disposed of at R360 located in Carlsbad, New Mexico.

## DELINEATION ACTIVITIES

LTE conducted delineation to define the vertical and lateral extent of impacted soil being left in place around underground lines and utility equipment immediately south of the release and a utility line prohibiting additional southern excavation progress. On September 10, 2019, six discrete soil samples from three delineation boreholes (BH01 through BH03) were collected

utilizing a hand auger. Two soil samples were collected from each borehole. Pothole soil sampling was also completed utilizing a backhoe to help direct excavation, but pothole samples were not used as closure or deferral sample locations.

On September 17, 18, and 23, 2019, an additional 12 discrete soil samples were collected from six boreholes (BH04 through BH09) near the electric and gas lines. The lithologic/soil sampling logs boreholes BH01 through BH09 are included in Attachment 3. During the advancement of each borehole, continuous soil sampling was conducted, which included describing the lithology based on the Unified Soil Classification System (USCS) as specified in American Society for Testing and Materials (ASTM) D2488, making observations of staining and odors, and field screening for volatile aromatic hydrocarbons and chloride. The discrete delineation soil samples were collected, handled and analyzed as described above. Delineation soil sample locations are presented on Figure 4.

## ANALYTICAL RESULTS

Laboratory analytical results from preliminary soil samples exceeded the Closure Criteria for GRO/DRO and/or TPH, indicating excavation of soil was necessary. Once as much impacted soil as possible was removed with a hydrovacuum, excavation closure samples were collected. Laboratory analytical results from the confirmation samples indicated that benzene, BTEX, GRO/DRO, and chloride concentrations were compliant with the Closure Criteria, except in sidewall samples adjacent to active pipelines. A summary of the residual impacted soil includes:

- TPH GRO/DRO was detected in three sidewall samples (SW04, SW05, and SW06) at concentrations greater than the Closure Criteria. TPH GRO/DRO concentrations ranged from 1,0290 mg/kg to 2,770 mg/kg. Sidewall sample SW04 was collected from the south sidewall of the central excavation. Sidewall samples SW05 was collected from the north and east sidewalls of the western excavation and SW06 was collected from the south and west sidewalls of the western excavation (Figure 3); and
- TPH was detected above the Closure Criteria in sidewall sample SW05 at a concentration of 2,950 mg/kg.

Those sidewall samples listed above are delineated by discrete samples collected from boreholes BH04 through BH09. All borehole samples were compliant with the Closure Criteria at all sample depth intervals. Laboratory analytical results are presented on Table 1 and the complete laboratory analytical report is included as Attachment 4.

## DEFERRAL REQUEST

A total of approximately 205 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth

moving activities within two feet of active pipelines or utility lines. Impacted soil was excavated to the extent possible, and laboratory analytical results for excavation sidewall samples SW04, SW05, and SW06 collected from the final excavation footprint indicated that soil with TPH GRO/DRO and/or TPH concentrations exceeding the Closure Criteria was left in place within two feet of an active pipeline and electrical utilities.

**CENTRAL EXCVATION**

Remaining soil containing concentrations of TPH GRO/DRO exceeding Closure Criteria at side wall sample SW04 is delineated vertically to a depth of six feet bgs by floor sample FS01 and laterally by borehole BH02 located 20 feet to the south. In addition, the remaining sidewalls of the excavation, which meet Closure Criteria, delineate residual impacts. An estimated 12 cubic yards of impacted soil remain in place.

**WEST EXCAVATION**

Remaining soil containing concentrations of TPH GRO/DRO and TPH exceeding Closure Criteria at sidewall sample SW05 is delineated vertically by floor sample FS03 and borehole BH08. It is delineated laterally to the east by east by BH04, to the south by BH03, to the west by BH07, and to the north by BH06. Excavation in the area of sidewall sample SW05 was limited due the location of electrical power lines immediately to the east of the excavation. An estimated 13 cubic yards of impacted soil remain in place.

Remaining soil containing concentrations of TPH GRO/DRO exceeding Closure Criteria at sidewall sample SW06 is defined vertically by floor sample FS03, laterally to the west by delineation borehole BH07 (five feet to the west), and to the south by delineation borehole BH03 (10 feet to the south). An estimated nine cubic yards of impacted soil remain in place.

An estimated 35 cubic yards of impacted soil remain in place for deferment. A hydro-vacuum was utilized within the excavations to remove as much soil as safely possible from the vicinity of the pipeline, electric power lines and an electrical box. The remaining TPH GRO/DRO and TPH impact is primarily beneath the electric lines, but delineated.

XTO requests permission to complete remediation during any future major construction/alteration or final abandonment, whichever occurs first. LTE and XTO do not believe deferment and/or a variance will result in an imminent risk to human health, the environment, or groundwater. No saturated soil remains in place and mass source removal has occurred. Remaining impact is delineated vertically and laterally. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. In addition, natural attenuation of the remaining soil impacts to below Closure Criteria is probable. XTO requests deferral of final

remediation for RP Number 1RP-5667. An updated NMOCD Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Tacoma Morrissey
Staff Geologist

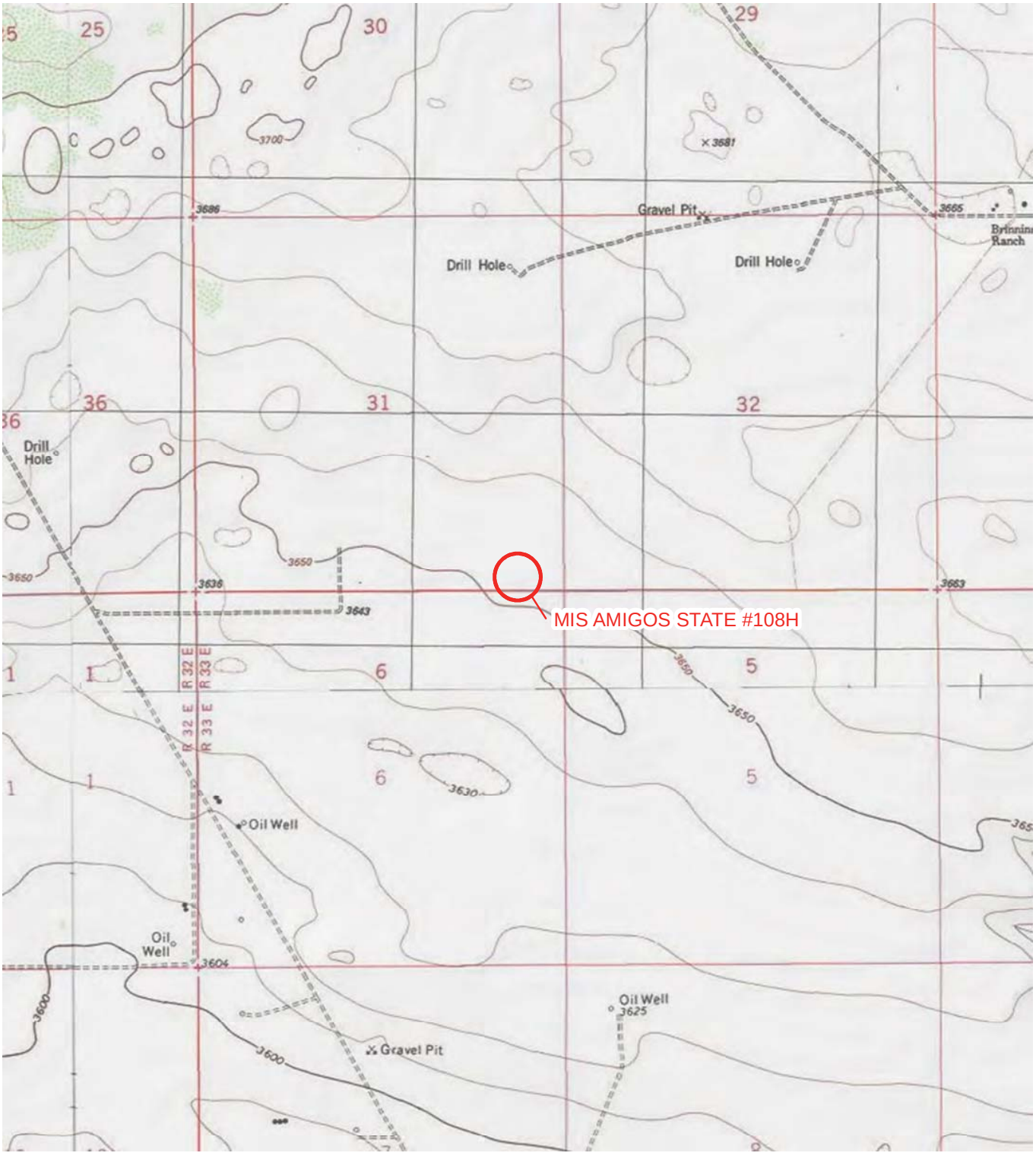
Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

| | |
|---|---|
| Figure 1 | Site Location Map |
| Figure 2 | Preliminary Soil Sample Locations |
| Figure 3 | Delineation Soil Sample Locations |
| Figure 4 | Excavation Soil Sample Locations |
| Table 1 | Soil Analytical Results |
| Attachment 1 | Initial/Final NMOCD Form C-141 (1RP-5667) |
| Attachment 2 | Photographic Log |
| Attachment 3 | Lithologic/Soil Sample Logs |
| Attachment 4 | Laboratory Analytical Reports |

# FIGURES




**LEGEND**

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
MIS AMIGOS STATE #108H
UNIT P SEC 31 T23S R33E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

NOTE: REMEDIATION PERMIT
NUMBER 1RP-5667

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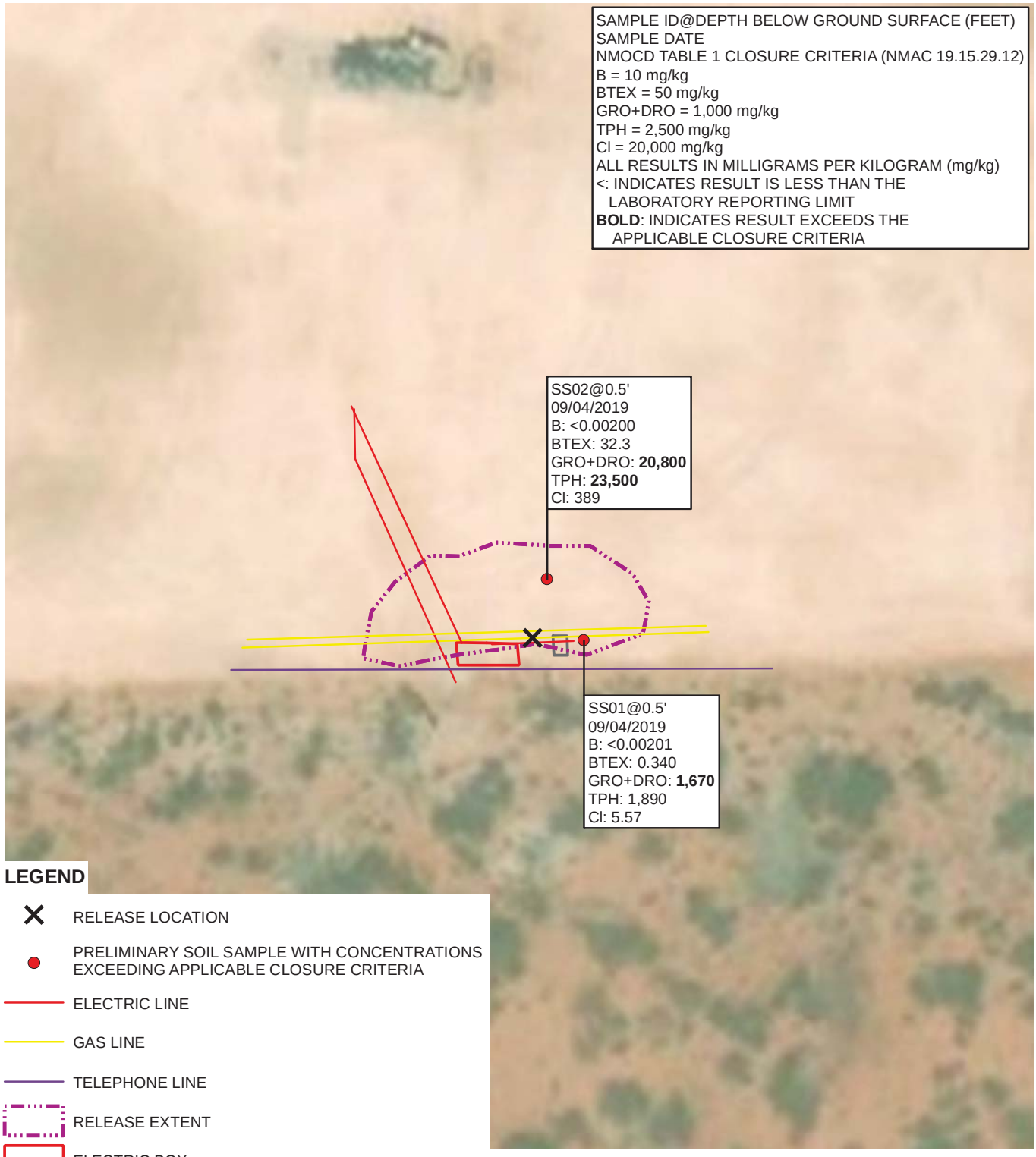
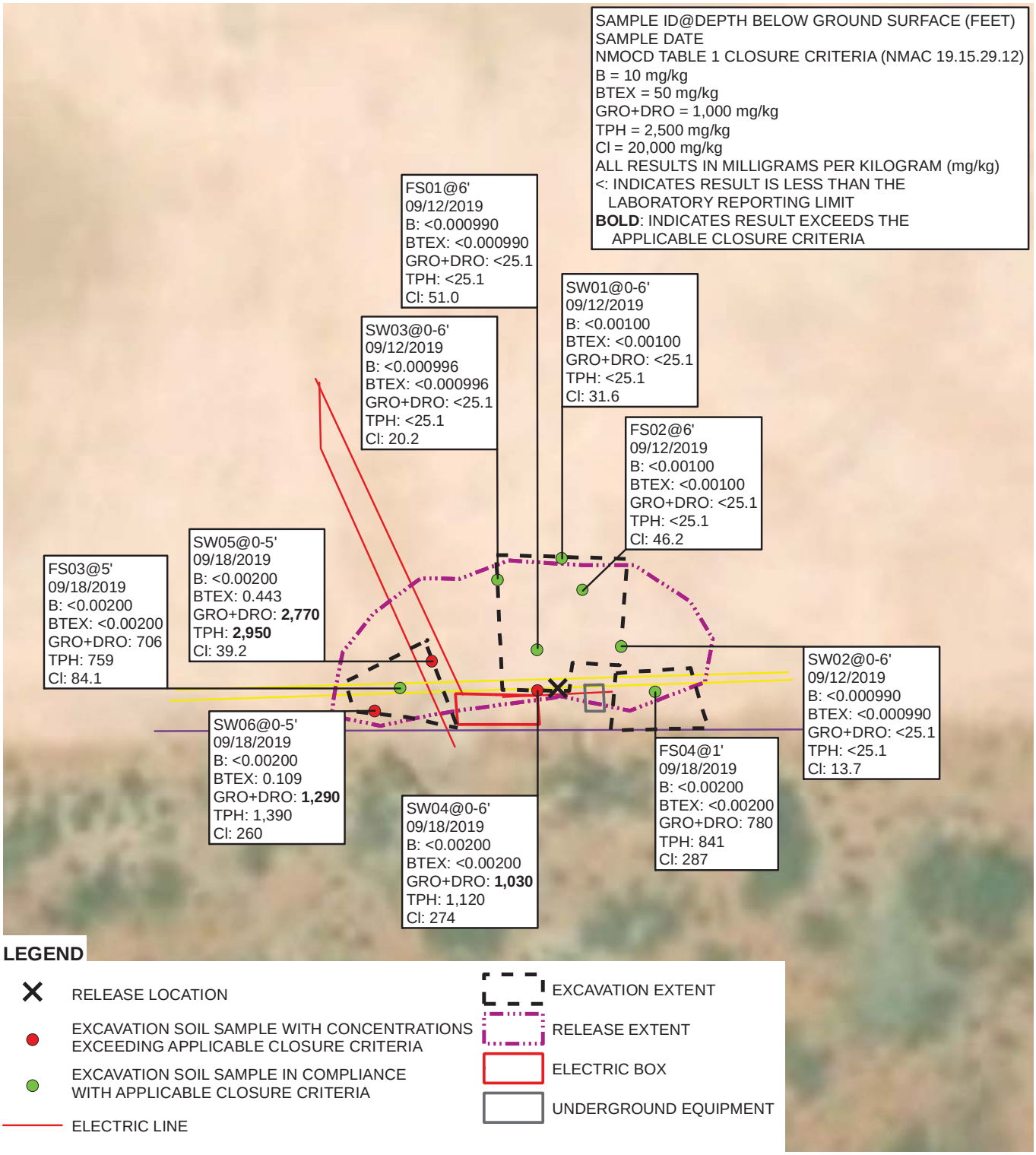



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5667

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
MIS AMIGOS STATE #108H
UNIT P SEC 31 T23S R33E
LEA COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

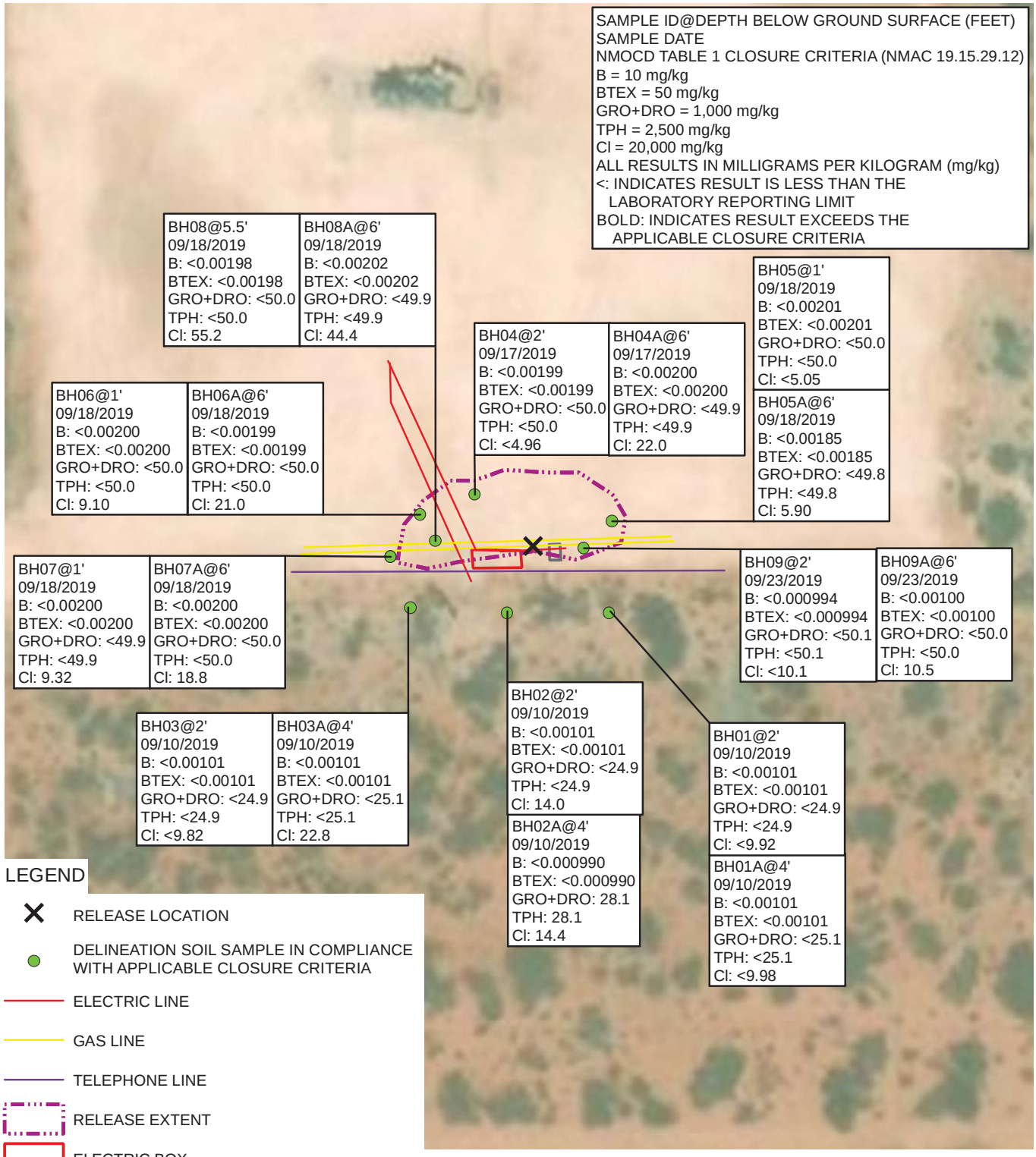
P:\XTO Energy\GIS\MXD\012919201_MIS AMIGOS STATE #108H\012919201_FIG02_PRELIMINARY_2019.mxd




B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5667

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
MIS AMIGOS STATE #108H
UNIT P SEC 31 T23S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919201_MIS AMIGOS STATE #108H\012919201_FIG03_EXCAVATION_2019.mxd




B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 1RP-5667

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
MIS AMIGOS STATE #108H
UNIT P SEC 31 T23S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919201_MIS AMIGOS STATE #108H\012919201_FIG04_DELINEATION_2019.mxd

TABLES

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

**MIS AMIGOS STATE #108H**
**REMEDIATION PERMIT NUMBER 1RP-5667**
**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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS01 | 0.5 | 09/04/2019 | <0.00201 | 0.00246 | 0.00405 | 0.333 | 0.340 | 107 | 1,560 | 218 | **1,670** | 1,890 | 5.57 |
| SS02 | 0.5 | 09/04/2019 | <0.00200 | 1.86 | 2.12 | 28.4 | 32.3 | 1,670 | 19,100 | 2,710 | **20,800** | **23,500** | 389 |
| BH01 | 2 | 09/10/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <24.9 | <24.9 | <24.9 | <24.9 | <24.9 | <9.92 |
| BH01A | 4 | 09/10/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | <9.98 |
| BH02 | 2 | 09/10/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <24.9 | <24.9 | <24.9 | <24.9 | <24.9 | 14.0 |
| BH02A | 4 | 09/10/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <25.0 | 28.1 | <25.0 | 28.1 | 28.1 | 14.4 |
| BH03 | 2 | 09/10/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <24.9 | <24.9 | <24.9 | <24.9 | <24.9 | <9.82 |
| BH03A | 4 | 09/10/2019 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <0.00101 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 22.8 |
| BH04 | 2 | 09/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <4.96 |
| BH04A | 6 | 09/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 22.0 |
| BH05 | 1 | 09/18/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <5.05 |
| BH05A | 6 | 09/18/2019 | <0.00185 | <0.00185 | <0.00185 | <0.00185 | <0.00185 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 5.90 |
| BH06 | 1 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 9.10 |
| BH06A | 6 | 09/18/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 21.0 |
| BH07 | 1 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 9.32 |
| BH07A | 6 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 18.8 |
| BH08 | 5.5 | 09/18/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 55.2 |
| BH08A | 6 | 09/18/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 44.4 |
| BH09 | 2 | 09/23/2019 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <0.000994 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.1 |
| BH09A | 6 | 09/23/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 10.5 |
| FS01 | 6 | 09/12/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 51.0 |
| FS02 | 6 | 09/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 46.2 |
| FS03 | 5 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | 0.0780 | 0.0780 | <49.8 | 706 | 52.9 | 706 | 759 | 84.1 |
| FS04 | 1 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 780 | 61.3 | 780 | 841 | 287 |
| SW01 | 0 - 6 | 09/12/2019 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 31.6 |
| SW02 | 0 - 6 | 09/12/2019 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <0.000990 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 13.7 |
| SW03 | 0 - 6 | 09/12/2019 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <0.000996 | <25.1 | <25.1 | <25.1 | <25.1 | <25.1 | 20.2 |
| SW04 | 0 - 6 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | 1,030 | 85.5 | **1,030** | 1,120 | 274 |
| SW05 | 0 - 5 | 09/18/2019 | <0.00200 | <0.00200 | 0.00901 | 0.434 | 0.443 | 173 | 2,600 | 180 | **2,770** | **2,950** | 39.2 |
| SW06 | 0 - 5 | 09/18/2019 | <0.00200 | <0.00200 | <0.00200 | 0.109 | 0.109 | <49.8 | 1,290 | 103 | **1,290** | 1,390 | 260 |
| **NMOCD Table 1 Closure Criteria** | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **1,000** | **2,500** | **20,000** |

**Notes:**

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
**Bold** - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5309)

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 | NRM1926041019 |
| District RP | 1RP-5667 |
| Facility ID | fRM1926040459 |
| Application ID | pRM1926039758 |

# 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 32.254428° Longitude -103.604989°

*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Mis Amigos State #108H | Site Type Production Well Facility |
| Date Release Discovered 8/15/2019 | API# *(if applicable)* 30-025-45263 |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| P | 31 | 23S | 33E | 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) 8.68 | Volume Recovered (bbls) 7.44 |
| ☒ Produced Water | Volume Released (bbls) 0.36 | Volume Recovered (bbls) 0.31 |
| | 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

Contract company struck a buried flow line while excavating on the well pad. Fluids were released to the well pad. The line was shut in and free fluids were recovered. A valid one-call was active, and buried utilities were marked except within the area of the line strike. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1926041019 |
| District RP | 1RP-5667 |
| Facility ID | fRM1926040459 |
| Application ID | pRM1926039758 |

| | |
|---|---|
| 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>N/A |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br>N/A | |

## 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:
N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Kyle Littrell Date: 8/28/2019

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

**OCD Only**

Received by: Ramona Marcus Date: 09/17/2019

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1926041019 |
| District RP | 1RP-5667 |
| Facility ID | fRM1926040459 |
| Application ID | pRM1926039758 |

# 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1926041019 |
| District RP | 1RP-5667 |
| Facility ID | fRM1926040459 |
| Application ID | pRM1926039758 |

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 Coordinator_____

Signature:_____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1926041019 |
| District RP | 1RP-5667 |
| Facility ID | fRM1926040459 |
| Application ID | pRM1926039758 |

# Remediation Plan

**Remediation Plan Checklist**: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only**: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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 Coordinator

Signature: Date:

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

**OCD Only**

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

# ATTACHMENT 2: PHOTOGRAPHIC LOG

**View of the surficial staining facing east. Note the surrounding equipment and utility lines immediately south of the release.**

| | | |
|---|---|---|
| Project: 012919201 | XTO Energy, Inc.<br>Mis Amigos State #108H (1RP-5667) | LTE Advancing Opportunity |
| September 4, 2019 | Photographic Log | |

**View of the central excavation facing south. Note exposed lines and surrounding equipment.**

| | | |
|---|---|---|
| Project: 012919201 | XTO Energy, Inc.<br>Mis Amigos State #108H (1RP-5667) | LTE Advancing Opportunity |
| September 18, 2019 | Photographic Log | |

**View of the eastern excavation facing west.**

| | | |
|---|---|---|
| Project: 012919201 | XTO Energy, Inc.<br>Mis Amigos State #108H (1RP-5667) | LTE Advancing Opportunity |
| September 18, 2019 | Photographic Log | |

# ATTACHMENT 3: LITHOLOGIC SOIL SAMPLE LOGS

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH01 | 09/10/19 |
| Project Name: Mis Amigos 108H | RP Number: |
| Logged By: Fatima Smith | Method: |
| Hole Diameter: | Total Depth: 41 |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:
Field Screening:
Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 4.9 | N | | 0–1 | | S | SP-SL-SM, reddish brwn, no odor |
| Dry | " | 7.7 | N | | 2–3 | | S | SP-SH-SC, reddish brwn, no odor |
| Dry | " | 6.3 | N | | 4 | | S | deepest sample @ 4' |

0 1 2 3 4 5 6 8 9 10 11 12

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH02 | 09/10/19 |
| Project Name: Mis Amigos 108H | RP Number: |
| Logged By: Fatima Smith | Method: |
| Hole Diameter: | Total Depth: 41 |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:
Field Screening:
Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 7.5 | N | | 0–1 | | S | SP-SL-SM, reddish brwn, no odor |
| Dry | " | 10.4 | N | | 2–3 | | S | SP-SH-SC, reddish brwn, no odor |
| Dry | " | 10.3 | N | | 4 | | S | deepest sample @ 41' |

Fath

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH03 | 09/10/19 |
| Project Name: Mis Amigos 108H | RP Number: |
| Logged By: Fatima Smith | Method: |
| Hole Diameter: | Total Depth: 41 |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:
Field Screening:
Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 3.8 | N | | 0–1 | | S | SP-SL-SM, reddish brwn, no odor |
| Dry | 11 | 3.9 | N | | 2 | | S | ↓ |
| Dry | 11 | 11.8 | N | | 3–4 | | S | SP-SH-SC, reddish brwn, no odor deepest sample @ 41 |
| | | | | | 5–12 | | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
*Compliance · Engineering · Remediation*

| Identifier: | Date: |
|---|---|
| BH04 | 09/17/2019 |
| **Project Name:** | **RP Number:** |
| Mis Amigos 108H | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Fatima Smith / Method: |
| Lat/Long: / Field Screening: | Hole Diameter: / Total Depth: 6' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 0.1 | N | | 0–1 | | S | SC, SP, SL, reddish brwn, no odor |
| Dry | | 10.9 | N | | 1–2 | | S | |
| | | | | | 2–3 | | | |
| Dry | | 3.7 | N | | 3–4 | | S | |
| | | | | | 4–5 | | | |
| Dry | | 2.7 | N | | 5–6 | | S | SP, SC, SH, red brwn, no odor |
| | | | | | | | | deepest sample @ 6' |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| Identifier: | Date: |
|---|---|
| BH05 | 09/18/2019 |
| Project Name: | RP Number: |
| Mis Amigos 108H | |
| LITHOLOGIC / SOIL SAMPLING LOG | Logged By: Fatima Smith / Method: |
| Lat/Long: / Field Screening: | Hole Diameter: / Total Depth: 6' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 2.6 | N | | 1 | | S | SP, SC, SH, reddish brwn, no odor |
| Dry | | 2.2 | N | | 2 | | S | |
| Dry | | 3.4 | N | | 4 | | S | |
| Dry | | 1.4 | N | | 6 | | S | deepest sample @ 6' |

Fatima

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
*Compliance · Engineering · Remediation*

| Identifier: | Date: |
|---|---|
| BH06 | 09/18/2019 |
| Project Name: Mis Amigos 108H | RP Number: |
| Logged By: Fatima Smith | Method: |
| Hole Diameter: | Total Depth: 6' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long: Field Screening:

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 3.6 | N | | 0–1 | | S | SP, SC, SH, reddish brwn, no odor |
| Dry | | 3.5 | N | | 2 | | S | |
| Dry | | 2.8 | N | | 4 | | S | |
| Dry | | 3.6 | N | | 6 | | S | deepest sample @ 6' |

Fatima

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
*Compliance · Engineering · Remediation*

| Identifier: | Date: |
|---|---|
| BH07 | 09/18/2019 |
| **Project Name:** | **RP Number:** |
| Mis Amigos 108H | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | **Logged By:** Fatima Smith / **Method:** |
| **Lat/Long:** / **Field Screening:** | **Hole Diameter:** / **Total Depth:** 6' |
| **Comments:** | |

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| Dry | <179 | 3.8 | | | 1 | | S | SP, SC, SH, reddish brwn, no odor |
| Dry | | 1.5 | | | 2 | | S | |
| | | | | | 3 | | | |
| Dry | | 1.7 | | | 4 | | S | |
| | | | | | 5 | | | |
| Dry | | 2.3 | | | 6 | | S | deepest sample @ 6' |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
*Compliance · Engineering · Remediation*

| Identifier: | Date: |
|---|---|
| BH08 | 09/18/2019 |
| **Project Name:** | **RP Number:** |
| Mis Amigos 108H | |
| **Logged By:** Fatima Smith | **Method:** |
| **Lat/Long:** | **Field Screening:** |
| **Hole Diameter:** | **Total Depth:** 6' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | EXCAVATED |
| | | | | | 1 | | | |
| | | | | | 2 | | | BY |
| | | | | | 3 | | | |
| | | | | | 4 | | | HYDROVAC |
| | | | | | 5 | | | |
| Dry | <179 | 44.6 | N | | | 5.5' | S | SP, SC, SH, reddish brwn, |
| Dry | <179 | 42.0 | N | | 6 | | S | no odor |
| | | | | | 7 | | | deepest sample @ 6' |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

| | |
|---|---|
| Identifier: BH09 | Date: 09/23/2019 |
| Project Name: Mis Amigos 108H | RP Number: |
| Logged By: Fatima Smith | Method: |
| Hole Diameter: | Total Depth: 6' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:

Field Screening:

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | Excavated by Hydrovac |
| Dry | <179 | 8.6 | N | | 1 | 1.5 | S | SP, SC, S+L, FS, reddish brwn, no odor |
| Dry | " | 13.1 | N | | 2 | | S | |
| | | | | | 3 | | | |
| Dry | " | 10.6 | N | | 4 | | S | |
| | | | | | 5 | | | |
| Dry | " | 5.3 | N | | 6 | | S | deepest sample @ 6' |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

# ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

# Analytical Report 636033

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos State 108H**

**012919201**

**09-SEP-19**

Collected By: Client


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

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

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

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

09-SEP-19

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

Reference: XENCO Report No(s): **636033**
**Mis Amigos State 108H**
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) 636033. 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. 636033 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

# Sample Cross Reference 636033

## LT Environmental, Inc., Arvada, CO

Mis Amigos State 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS01 | S | 09-04-19 09:48 | 0.5 ft | 636033-001 |
| SS02 | S | 09-04-19 10:02 | 0.5 ft | 636033-002 |

# CASE NARRATIVE

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

***Project Name: Mis Amigos State 108H***

Project ID: *012919201*
Work Order Number(s): *636033*

Report Date: *09-SEP-19*
Date Received: *09/04/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3100786 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 636033-002,636033-001.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 636033

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos State 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed Sep-04-19 04:24 pm
**Report Date:** 09-SEP-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 636033-001 | | 636033-002 | | | | | |
| | ***Field Id:*** | SS01 | | SS02 | | | | | |
| | ***Depth:*** | 0.5- ft | | 0.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Sep-04-19 09:48 | | Sep-04-19 10:02 | | | | | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Sep-06-19 11:30 | | Sep-06-19 11:30 | | | | | |
| | ***Analyzed:*** | Sep-07-19 12:44 | | Sep-07-19 01:04 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | | | | |
| Toluene | | 0.00246 | 0.00201 | 1.86 D | 0.200 | | | | |
| Ethylbenzene | | 0.00405 | 0.00201 | 2.12 D | 0.200 | | | | |
| m,p-Xylenes | | 0.226 | 0.00402 | 22.5 D | 0.399 | | | | |
| o-Xylene | | 0.107 | 0.00201 | 5.86 D | 0.200 | | | | |
| Total Xylenes | | 0.333 | 0.00201 | 28.4 | 0.200 | | | | |
| Total BTEX | | 0.340 | 0.00201 | 32.3 | 0.00200 | | | | |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Sep-06-19 15:40 | | Sep-06-19 15:40 | | | | | |
| | ***Analyzed:*** | Sep-06-19 19:40 | | Sep-06-19 19:46 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 5.57 | 4.97 | 389 | 4.95 | | | | |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Sep-06-19 13:30 | | Sep-06-19 13:30 | | | | | |
| | ***Analyzed:*** | Sep-06-19 17:13 | | Sep-07-19 12:33 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | 107 | 24.9 | 1670 | 125 | | | | |
| Diesel Range Organics (DRO) | | 1560 | 24.9 | 19100 | 125 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 218 | 24.9 | 2710 | 125 | | | | |
| Total GRO-DRO | | 1670 | 24.9 | 20800 | 125 | | | | |
| Total TPH | | 1890 | 24.9 | 23500 | 125 | | | | |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 636033

## LT Environmental, Inc., Arvada, CO

Mis Amigos State 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 09.04.19 16.24 |
| Lab Sample Id: | 636033-001 | Date Collected: | 09.04.19 09.48 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 09.06.19 15.40 | Basis: | Wet Weight |
| Seq Number: | 3100795 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.57** | 4.97 | mg/kg | 09.06.19 19.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 09.06.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3100798 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **107** | 24.9 | mg/kg | 09.06.19 17.13 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1560** | 24.9 | mg/kg | 09.06.19 17.13 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **218** | 24.9 | mg/kg | 09.06.19 17.13 | | 1 |
| **Total GRO-DRO** | PHC628 | **1670** | 24.9 | mg/kg | 09.06.19 17.13 | | 1 |
| **Total TPH** | PHC635 | **1890** | 24.9 | mg/kg | 09.06.19 17.13 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 118 | % | 70-135 | 09.06.19 17.13 | |
| o-Terphenyl | 84-15-1 | 129 | % | 70-135 | 09.06.19 17.13 | |

# Certificate of Analytical Results 636033

## LT Environmental, Inc., Arvada, CO

Mis Amigos State 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 09.04.19 16.24 |
| Lab Sample Id: | 636033-001 | Date Collected: | 09.04.19 09.48 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.06.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3100786 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 09.07.19 12.44 | U | 1 |
| **Toluene** | 108-88-3 | **0.00246** | 0.00201 | mg/kg | 09.07.19 12.44 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00405** | 0.00201 | mg/kg | 09.07.19 12.44 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.226** | 0.00402 | mg/kg | 09.07.19 12.44 | | 1 |
| **o-Xylene** | 95-47-6 | **0.107** | 0.00201 | mg/kg | 09.07.19 12.44 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.333** | 0.00201 | mg/kg | 09.07.19 12.44 | | 1 |
| **Total BTEX** | | **0.340** | 0.00201 | mg/kg | 09.07.19 12.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 233 | % | 70-130 | 09.07.19 12.44 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 89 | % | 70-130 | 09.07.19 12.44 | |

# Certificate of Analytical Results 636033

## LT Environmental, Inc., Arvada, CO

Mis Amigos State 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 09.04.19 16.24 |
| Lab Sample Id: | 636033-002 | Date Collected: | 09.04.19 10.02 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 09.06.19 15.40 | Basis: | Wet Weight |
| Seq Number: | 3100795 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **389** | 4.95 | mg/kg | 09.06.19 19.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 09.06.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3100798 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **1670** | 125 | mg/kg | 09.07.19 12.33 | | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **19100** | 125 | mg/kg | 09.07.19 12.33 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **2710** | 125 | mg/kg | 09.07.19 12.33 | | 5 |
| **Total GRO-DRO** | PHC628 | **20800** | 125 | mg/kg | 09.07.19 12.33 | | 5 |
| **Total TPH** | PHC635 | **23500** | 125 | mg/kg | 09.07.19 12.33 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 09.07.19 12.33 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 09.07.19 12.33 | |

# Certificate of Analytical Results 636033

## LT Environmental, Inc., Arvada, CO

Mis Amigos State 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 09.04.19 16.24 |
| Lab Sample Id: | 636033-002 | Date Collected: | 09.04.19 10.02 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.06.19 11.30 | Basis: | Wet Weight |
| Seq Number: | 3100786 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.07.19 01.04 | U | 1 |
| **Toluene** | 108-88-3 | **1.86** | 0.200 | mg/kg | 09.09.19 11.33 | D | 100 |
| **Ethylbenzene** | 100-41-4 | **2.12** | 0.200 | mg/kg | 09.09.19 11.33 | D | 100 |
| **m,p-Xylenes** | 179601-23-1 | **22.5** | 0.399 | mg/kg | 09.09.19 11.33 | D | 100 |
| **o-Xylene** | 95-47-6 | **5.86** | 0.200 | mg/kg | 09.09.19 11.33 | D | 100 |
| **Total Xylenes** | 1330-20-7 | **28.4** | 0.200 | mg/kg | 09.09.19 11.33 | | 100 |
| **Total BTEX** | | **32.3** | 0.00200 | mg/kg | 09.09.19 11.33 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 567 | % | 70-130 | 09.07.19 01.04 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 09.07.19 01.04 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 636033

## LT Environmental, Inc.

Mis Amigos State 108H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3100795 — Matrix: Solid — Date Prep: 09.06.19
MB Sample Id: 7685762-1-BLK — LCS Sample Id: 7685762-1-BKS — LCSD Sample Id: 7685762-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 256 | 102 | 255 | 102 | 90-110 | 0 | 20 | mg/kg | 09.06.19 18:13 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3100795 — Matrix: Soil — Date Prep: 09.06.19
Parent Sample Id: 636033-002 — MS Sample Id: 636033-002 S — MSD Sample Id: 636033-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 389 | 248 | 628 | 96 | 627 | 96 | 90-110 | 0 | 20 | mg/kg | 09.06.19 19:52 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3100795 — Matrix: Soil — Date Prep: 09.06.19
Parent Sample Id: 636062-019 — MS Sample Id: 636062-019 S — MSD Sample Id: 636062-019 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 463 | 250 | 706 | 97 | 704 | 96 | 90-110 | 0 | 20 | mg/kg | 09.06.19 18:31 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3100798 — Matrix: Solid — Date Prep: 09.06.19
MB Sample Id: 7685729-1-BLK — LCS Sample Id: 7685729-1-BKS — LCSD Sample Id: 7685729-1-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 | 957 | 96 | 959 | 96 | 70-135 | 0 | 20 | mg/kg | 09.06.19 15:18 | |
| Diesel Range Organics (DRO) | <25.0 | 1000 | 922 | 92 | 919 | 92 | 70-135 | 0 | 20 | mg/kg | 09.06.19 15:18 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | | 123 | | 125 | | 70-135 | % | 09.06.19 15:18 |
| o-Terphenyl | 99 | | 99 | | 100 | | 70-135 | % | 09.06.19 15:18 |

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 636033

## LT Environmental, Inc.

Mis Amigos State 108H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3100798 — Matrix: Soil — Date Prep: 09.06.19
Parent Sample Id: 636062-021 — MS Sample Id: 636062-021 S — MSD Sample Id: 636062-021 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) | <15.0 | 999 | 894 | 89 | 905 | 91 | 70-135 | 1 | 20 | mg/kg | 09.06.19 16:35 | |
| Diesel Range Organics (DRO) | <25.0 | 999 | 877 | 88 | 886 | 89 | 70-135 | 1 | 20 | mg/kg | 09.06.19 16:35 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 116 | | 119 | | 70-135 | % | 09.06.19 16:35 |
| o-Terphenyl | 92 | | 93 | | 70-135 | % | 09.06.19 16:35 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3100786 — Matrix: Solid — Date Prep: 09.06.19
MB Sample Id: 7685715-1-BLK — LCS Sample Id: 7685715-1-BKS — LCSD Sample Id: 7685715-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.0909 | 91 | 0.0936 | 94 | 70-130 | 3 | 35 | mg/kg | 09.06.19 10:04 | |
| Toluene | <0.00200 | 0.100 | 0.0884 | 88 | 0.0903 | 90 | 70-130 | 2 | 35 | mg/kg | 09.06.19 10:04 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.104 | 104 | 0.106 | 106 | 70-130 | 2 | 35 | mg/kg | 09.06.19 10:04 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.207 | 104 | 0.214 | 107 | 70-130 | 3 | 35 | mg/kg | 09.06.19 10:04 | |
| o-Xylene | <0.00200 | 0.100 | 0.101 | 101 | 0.104 | 104 | 70-130 | 3 | 35 | mg/kg | 09.06.19 10:04 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 98 | | 92 | | 97 | | 70-130 | % | 09.06.19 10:04 |
| 4-Bromofluorobenzene | 100 | | 107 | | 115 | | 70-130 | % | 09.06.19 10:04 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3100786 — Matrix: Soil — Date Prep: 09.06.19
Parent Sample Id: 636038-001 — MS Sample Id: 636038-001 S — MSD Sample Id: 636038-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0994 | 0.0742 | 75 | 0.0614 | 61 | 70-130 | 19 | 35 | mg/kg | 09.06.19 10:44 | X |
| Toluene | <0.00199 | 0.0994 | 0.0624 | 63 | 0.0407 | 41 | 70-130 | 42 | 35 | mg/kg | 09.06.19 10:44 | XF |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0622 | 63 | 0.0361 | 36 | 70-130 | 53 | 35 | mg/kg | 09.06.19 10:44 | XF |
| m,p-Xylenes | <0.00398 | 0.199 | 0.120 | 60 | 0.0872 | 44 | 70-130 | 32 | 35 | mg/kg | 09.06.19 10:44 | X |
| o-Xylene | <0.00199 | 0.0994 | 0.0579 | 58 | 0.0466 | 47 | 70-130 | 22 | 35 | mg/kg | 09.06.19 10:44 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 110 | | 70-130 | % | 09.06.19 10:44 |
| 4-Bromofluorobenzene | 116 | | 73 | | 70-130 | % | 09.06.19 10:44 |

MS/MSD Percent Recovery — [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: 163e033

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 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 II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | Mis Amigos State 108H | Turn Around | |
| Project Number: | 0129192201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 1.8 | 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: | 2 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SS01 | S | 09/04/19 | 0948 | 0.5' | 1 | X | X | X |
| SS02 | S | 09/04/19 | 1002 | 0.5' | 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



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 9/4/19 1024 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# Inter-Office Shipment



**IOS Number** **47494**

Date/Time: 09/05/19 12:15
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776167105560

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 636033-001 | S | SS01 | 09/04/19 09:48 | SW8015MOD_NM | TPH by SW8015 Mod | 09/10/19 | 09/18/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 636033-001 | S | SS01 | 09/04/19 09:48 | SW8021B | BTEX by EPA 8021B | 09/10/19 | 09/18/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 636033-001 | S | SS01 | 09/04/19 09:48 | E300_CL | Chloride by EPA 300 | 09/10/19 | 03/02/20 | JKR | CL | |
| 636033-002 | S | SS02 | 09/04/19 10:02 | SW8021B | BTEX by EPA 8021B | 09/10/19 | 09/18/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 636033-002 | S | SS02 | 09/04/19 10:02 | E300_CL | Chloride by EPA 300 | 09/10/19 | 03/02/20 | JKR | CL | |
| 636033-002 | S | SS02 | 09/04/19 10:02 | SW8015MOD_NM | TPH by SW8015 Mod | 09/10/19 | 09/18/19 | JKR | GRO-DRO PHCC10C28 PH | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Elizabeth McClellan

Date Relinquished: 09/05/2019

Received By: Brianna Teel

Date Received: 09/06/2019 11:12

Cooler Temperature: 2.1

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 47494

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**
**Temperature Measuring device used : R8**

**Sent By:** Elizabeth McClellan **Date Sent:** 09/05/2019 12:15 PM

**Received By:** Brianna Teel **Date Received:** 09/06/2019 11:12 AM

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 2.1 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received with appropriate temperature? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** | |
| #5 *Custody Seals Signed and dated for Containers/coolers | **Yes** | |
| #6 *IOS present? | **Yes** | |
| #7 Any missing/extra samples? | **No** | |
| #8 IOS agrees with sample label(s)/matrix? | **Yes** | |
| #9 Sample matrix/ properties agree with IOS? | **Yes** | |
| #10 Samples in proper container/ bottle? | **Yes** | |
| #11 Samples properly preserved? | **Yes** | |
| #12 Sample container(s) intact? | **Yes** | |
| #13 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #14 All samples received within hold time? | **Yes** | |

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

**Contact:** _____ **Contacted by :** _____ **Date:** _____

**Checklist reviewed by:** Brianna Teel Date: 09/06/2019

Brianna Teel

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/04/2019 04:24:00 PM

**Work Order #:** 636033

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 1.8 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received on ice? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **No** | |
| #5 Custody Seals intact on sample bottles? | **No** | |
| #6*Custody Seals Signed and dated? | **N/A** | |
| #7 *Chain of Custody present? | **Yes** | |
| #8 Any missing/extra samples? | **No** | |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** | |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** | |
| #11 Container label(s) legible and intact? | **Yes** | |
| #12 Samples in proper container/ bottle? | **Yes** | |
| #13 Samples properly preserved? | **Yes** | |
| #14 Sample container(s) intact? | **Yes** | |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #16 All samples received within hold time? | **Yes** | |
| #17 Subcontract of sample(s)? | **Yes** | Subbed to Xenco Midland. |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 09/05/2019

**Checklist reviewed by:** Jessica Kramer Date: 09/06/2019

# Analytical Report 636779

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos 108H**

**012919201**

**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): **636779**
**Mis Amigos 108H**
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) 636779. 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. 636779 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

# Sample Cross Reference 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS01 | S | 09-12-19 00:00 | 6 ft | 636779-001 |
| FS02 | S | 09-12-19 00:00 | 6 ft | 636779-002 |
| SW01 | S | 09-12-19 00:00 | 0 - 6 ft | 636779-003 |
| SW02 | S | 09-12-19 00:00 | 0 - 6 ft | 636779-004 |
| SW03 | S | 09-12-19 00:00 | 0 - 6 ft | 636779-005 |

# CASE NARRATIVE

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

***Project Name: Mis Amigos 108H***

Project ID: *012919201*
Work Order Number(s): *636779*

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-3101421 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 636779

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Thu Sep-12-19 04:45 pm
**Report Date:** 16-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 636779-001 | | 636779-002 | | 636779-003 | | 636779-004 | | 636779-005 | | | | | | | |
| | *Field Id:* | FS01 | | FS02 | | SW01 | | SW02 | | SW03 | | | | | | | |
| | *Depth:* | 6- ft | | 6- ft | | 0-6 ft | | 0-6 ft | | 0-6 ft | | | | | | | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | | | | | | |
| | *Sampled:* | Sep-12-19 00:00 | | Sep-12-19 00:00 | | Sep-12-19 00:00 | | Sep-12-19 00:00 | | Sep-12-19 00:00 | | | | | | | |
| **BTEX by EPA 8021B** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | | | | | | |
| | *Analyzed:* | Sep-12-19 20:09 | | Sep-12-19 20:29 | | Sep-12-19 20:49 | | Sep-12-19 21:09 | | Sep-12-19 21:29 | | | | | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Benzene | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| Toluene | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| Ethylbenzene | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| m,p-Xylenes | | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | | | | | | |
| o-Xylene | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| Total Xylenes | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| Total BTEX | | <0.000990 | 0.000990 | <0.00100 | 0.00100 | <0.00100 | 0.00100 | <0.000990 | 0.000990 | <0.000996 | 0.000996 | | | | | | |
| **Chloride by EPA 300** | *Extracted:* | Sep-12-19 16:50 | | Sep-12-19 16:50 | | Sep-12-19 16:50 | | Sep-12-19 16:50 | | Sep-12-19 16:50 | | | | | | | |
| | *Analyzed:* | Sep-12-19 17:07 | | Sep-12-19 17:13 | | Sep-12-19 17:26 | | Sep-12-19 17:33 | | Sep-12-19 17:39 | | | | | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Chloride | | 51.0 | 10.0 | 46.2 | 9.88 | 31.6 | 9.88 | 13.7 | 9.94 | 20.2 | 9.98 | | | | | | |
| **TPH by SW8015 Mod** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | | | | | | |
| | *Analyzed:* | Sep-12-19 22:40 | | Sep-12-19 23:01 | | Sep-12-19 23:22 | | Sep-12-19 23:43 | | Sep-13-19 00:03 | | | | | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | | | | | | |
| Diesel Range Organics (DRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | | | | | | |
| Total GRO-DRO | | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | | | | | | |
| Total TPH | | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | <25.1 | 25.1 | | | | | | |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS01** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-001 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 16.50 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **51.0** | 10.0 | mg/kg | 09.12.19 17.07 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 16.30 | 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 22.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 22.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 22.40 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 22.40 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 22.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 09.12.19 22.40 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 09.12.19 22.40 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS01** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-001 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3101421 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 09.12.19 20.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 09.12.19 20.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 09.12.19 20.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.12.19 20.09 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS02** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-002 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 16.50 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **46.2** | 9.88 | mg/kg | 09.12.19 17.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 16.30 | 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 23.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 23.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 23.01 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 23.01 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 23.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 117 | % | 70-135 | 09.12.19 23.01 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 09.12.19 23.01 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS02** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-002 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3101421 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 09.12.19 20.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.12.19 20.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 09.12.19 20.29 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW01** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-003 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 16.50 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **31.6** | 9.88 | mg/kg | 09.12.19 17.26 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 16.30 | 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 23.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 23.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 23.22 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 23.22 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 23.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.12.19 23.22 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 09.12.19 23.22 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW01** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-003 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3101421 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 09.12.19 20.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 09.12.19 20.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 09.12.19 20.49 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 09.12.19 20.49 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW02** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-004 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 16.50 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.7** | 9.94 | mg/kg | 09.12.19 17.33 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 16.30 | 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 23.43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 23.43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 23.43 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 23.43 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 23.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 09.12.19 23.43 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 09.12.19 23.43 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW02** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-004 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3101421 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 09.12.19 21.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 09.12.19 21.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 09.12.19 21.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 09.12.19 21.09 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW03** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-005 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.12.19 16.50 | Basis: | Wet Weight |
| Seq Number: | 3101331 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **20.2** | 9.98 | mg/kg | 09.12.19 17.39 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 16.30 | 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 | 09.13.19 00.03 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.13.19 00.03 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.13.19 00.03 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.13.19 00.03 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.13.19 00.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.13.19 00.03 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 09.13.19 00.03 | |

# Certificate of Analytical Results 636779

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW03** | Matrix: | Soil | Date Received: | 09.12.19 16.45 |
| Lab Sample Id: | 636779-005 | Date Collected: | 09.12.19 00.00 | Sample Depth: | 0 - 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.12.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3101421 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |
| Toluene | 108-88-3 | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 09.12.19 21.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |
| Total BTEX | | <0.000996 | 0.000996 | mg/kg | 09.12.19 21.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 09.12.19 21.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.12.19 21.29 | |

# 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 636779

## LT Environmental, Inc.

Mis Amigos 108H

**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 636779

## LT Environmental, Inc.

Mis Amigos 108H

**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: 3101421 — Matrix: Solid — Date Prep: 09.12.19
MB Sample Id: 7686189-1-BLK — LCS Sample Id: 7686189-1-BKS — LCSD Sample Id: 7686189-1-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 | 0.0866 | 87 | 70-130 | 2 | 35 | mg/kg | 09.12.19 11:37 | |
| Toluene | <0.00100 | 0.100 | 0.0909 | 91 | 0.0920 | 92 | 70-130 | 1 | 35 | mg/kg | 09.12.19 11:37 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.109 | 109 | 0.112 | 112 | 71-129 | 3 | 35 | mg/kg | 09.12.19 11:37 | |
| m,p-Xylenes | <0.00100 | 0.200 | 0.228 | 114 | 0.232 | 116 | 70-135 | 2 | 35 | mg/kg | 09.12.19 11:37 | |
| o-Xylene | <0.000500 | 0.100 | 0.113 | 113 | 0.116 | 116 | 71-133 | 3 | 35 | mg/kg | 09.12.19 11:37 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 105 | | 97 | | 99 | | 70-130 | % | 09.12.19 11:37 |
| 4-Bromofluorobenzene | 106 | | 113 | | 116 | | 70-130 | % | 09.12.19 11:37 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3101421 — 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000992 | 0.0992 | 0.0845 | 85 | 0.0851 | 86 | 70-130 | 1 | 35 | mg/kg | 09.12.19 19:10 | |
| Toluene | <0.000992 | 0.0992 | 0.0896 | 90 | 0.0897 | 90 | 70-130 | 0 | 35 | mg/kg | 09.12.19 19:10 | |
| Ethylbenzene | <0.000496 | 0.0992 | 0.0987 | 99 | 0.0989 | 100 | 71-129 | 0 | 35 | mg/kg | 09.12.19 19:10 | |
| m,p-Xylenes | <0.000992 | 0.198 | 0.201 | 102 | 0.201 | 102 | 70-135 | 0 | 35 | mg/kg | 09.12.19 19:10 | |
| o-Xylene | <0.000992 | 0.0992 | 0.0987 | 99 | 0.0990 | 100 | 71-133 | 0 | 35 | mg/kg | 09.12.19 19:10 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 108 | | 70-130 | % | 09.12.19 19:10 |
| 4-Bromofluorobenzene | 110 | | 114 | | 70-130 | % | 09.12.19 19:10 |

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

# Chain of Custody

Work Order No: 03v779

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: | 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: | MisAmigos 108H | Turn Around | |
| Project Number: | 01291920I | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 4.0 | 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: | 5 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS01 | S | 09/12/19 | | 6' | 1 | X | X | X |
| FS02 | S | | | 6' | 1 | X | X | X |
| SW01 | S | | | 0-6' | 1 | X | X | X |
| SW02 | S | | | 0-6' | 1 | X | X | X |
| SW03 | S | | | 0-6' | 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



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 9/12/19 16:15 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/12/2019 04:45:00 PM

**Work Order #:** 636779

**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? | **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: 09/13/2019

# Analytical Report 637573

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos 108H**

**012919201**

**25-SEP-19**

Collected By: Client


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

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

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

25-SEP-19

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

Reference: XENCO Report No(s): **637573**
**Mis Amigos 108H**
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) 637573. 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. 637573 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 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH04 | S | 09-17-19 15:04 | 2 ft | 637573-001 |
| BH04A | S | 09-17-19 15:31 | 6 ft | 637573-002 |
| BH05 | S | 09-18-19 09:11 | 1 ft | 637573-003 |
| BH05A | S | 09-18-19 09:30 | 6 ft | 637573-004 |
| BH06 | S | 09-18-19 09:40 | 1 ft | 637573-005 |
| BH06A | S | 09-18-19 10:00 | 6 ft | 637573-006 |
| BH07 | S | 09-18-19 10:23 | 1 ft | 637573-007 |
| BH07A | S | 09-18-19 10:42 | 6 ft | 637573-008 |
| BH08 | S | 09-18-19 14:00 | 5.5 ft | 637573-009 |
| BH08A | S | 09-18-19 14:03 | 6 ft | 637573-010 |

# CASE NARRATIVE

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

***Project Name: Mis Amigos 108H***

Project ID: *012919201*
Work Order Number(s): *637573*

Report Date: *25-SEP-19*
Date Received: *09/20/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3102256 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 637573

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri Sep-20-19 12:38 pm
**Report Date:** 25-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 637573-001 | | 637573-002 | | 637573-003 | | 637573-004 | | 637573-005 | | 637573-006 | |
| | *Field Id:* | BH04 | | BH04A | | BH05 | | BH05A | | BH06 | | BH06A | |
| | *Depth:* | 2- ft | | 6- ft | | 1- ft | | 6- ft | | 1- ft | | 6- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Sep-17-19 15:04 | | Sep-17-19 15:31 | | Sep-18-19 09:11 | | Sep-18-19 09:30 | | Sep-18-19 09:40 | | Sep-18-19 10:00 | |
| **BTEX by EPA 8021B SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | |
| | *Analyzed:* | Sep-23-19 19:10 | | Sep-23-19 19:30 | | Sep-23-19 19:50 | | Sep-23-19 20:10 | | Sep-23-19 21:29 | | Sep-23-19 21:49 | |
| | *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 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00370 | 0.00370 | <0.00400 | 0.00400 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00185 | 0.00185 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| **Chloride by EPA 300 SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | |
| | *Analyzed:* | Sep-24-19 16:47 | | Sep-24-19 17:25 | | Sep-24-19 17:45 | | Sep-24-19 17:51 | | Sep-24-19 17:57 | | Sep-24-19 18:04 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.96 | 4.96 | 22.0 | 4.98 | <5.05 | 5.05 | 5.90 | 5.05 | 9.10 | 5.05 | 21.0 | 4.99 |
| **TPH by SW8015 Mod SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | |
| | *Analyzed:* | Sep-23-19 17:33 | | Sep-23-19 17:54 | | Sep-23-19 18:15 | | Sep-23-19 18:36 | | Sep-23-19 18:57 | | Sep-23-19 19:39 | |
| | *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 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total GRO-DRO | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |
| Total TPH | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 |





Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 637573

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri Sep-20-19 12:38 pm
**Report Date:** 25-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 637573-007 | | 637573-008 | | 637573-009 | | 637573-010 | | | | | |
| | *Field Id:* | BH07 | | BH07A | | BH08 | | BH08A | | | | | |
| | *Depth:* | 1- ft | | 6- ft | | 5.5- ft | | 6- ft | | | | | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | *Sampled:* | Sep-18-19 10:23 | | Sep-18-19 10:42 | | Sep-18-19 14:00 | | Sep-18-19 14:03 | | | | | |
| **BTEX by EPA 8021B SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | | Sep-23-19 14:30 | | | | | |
| | *Analyzed:* | Sep-23-19 22:09 | | Sep-23-19 22:29 | | Sep-23-19 22:49 | | Sep-23-19 23:09 | | | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00399 | 0.00399 | <0.00397 | 0.00397 | <0.00403 | 0.00403 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | | | | |
| **Chloride by EPA 300 SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | | | | |
| | *Analyzed:* | Sep-24-19 18:10 | | Sep-24-19 18:17 | | Sep-24-19 18:36 | | Sep-24-19 18:43 | | | | | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 9.32 | 4.98 | 18.8 | 4.95 | 55.2 | 5.02 | 44.4 | 5.00 | | | | |
| **TPH by SW8015 Mod SUB: T104704400-18-18** | *Extracted:* | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | | | | |
| | *Analyzed:* | Sep-23-19 20:00 | | Sep-23-19 20:20 | | Sep-23-19 20:41 | | Sep-23-19 21:02 | | | | | |
| | *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 | <50.0 | 50.0 | <49.9 | 49.9 | | | | |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | | | | |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | | | | |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <50.0 | 50.0 | <49.9 | 49.9 | | | | |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-001 | Date Collected: | 09.17.19 15.04 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 09.24.19 16.47 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 17.33 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 17.33 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 17.33 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 17.33 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 17.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.23.19 17.33 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-135 | 09.23.19 17.33 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-001 | Date Collected: | 09.17.19 15.04 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 09.23.19 19.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 09.23.19 19.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 09.23.19 19.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 09.23.19 19.10 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-002 | Date Collected: | 09.17.19 15.31 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.0** | 4.98 | mg/kg | 09.24.19 17.25 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 09.23.19 17.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 09.23.19 17.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 09.23.19 17.54 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 09.23.19 17.54 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 09.23.19 17.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 09.23.19 17.54 | |
| o-Terphenyl | 84-15-1 | 120 | % | 70-135 | 09.23.19 17.54 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-002 | Date Collected: | 09.17.19 15.31 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 09.23.19 19.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.23.19 19.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 09.23.19 19.30 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 09.23.19 19.30 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-003 | Date Collected: | 09.18.19 09.11 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 09.24.19 17.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 18.15 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 18.15 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 18.15 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 18.15 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 18.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 09.23.19 18.15 | |
| o-Terphenyl | 84-15-1 | 121 | % | 70-135 | 09.23.19 18.15 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-003 | Date Collected: | 09.18.19 09.11 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 09.23.19 19.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 09.23.19 19.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 09.23.19 19.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 09.23.19 19.50 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-004 | Date Collected: | 09.18.19 09.30 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.90** | 5.05 | mg/kg | 09.24.19 17.51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 09.23.19 18.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 09.23.19 18.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 09.23.19 18.36 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 09.23.19 18.36 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 09.23.19 18.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 09.23.19 18.36 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 09.23.19 18.36 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-004 | Date Collected: | 09.18.19 09.30 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |
| Toluene | 108-88-3 | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00370 | 0.00370 | mg/kg | 09.23.19 20.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |
| Total BTEX | | <0.00185 | 0.00185 | mg/kg | 09.23.19 20.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 09.23.19 20.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 09.23.19 20.10 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-005 | Date Collected: | 09.18.19 09.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.10** | 5.05 | mg/kg | 09.24.19 17.57 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 18.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 18.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 18.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 18.57 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 18.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 09.23.19 18.57 | |
| o-Terphenyl | 84-15-1 | 126 | % | 70-135 | 09.23.19 18.57 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-005 | Date Collected: | 09.18.19 09.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 09.23.19 21.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.23.19 21.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 09.23.19 21.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 09.23.19 21.29 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-006 | Date Collected: | 09.18.19 10.00 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **21.0** | 4.99 | mg/kg | 09.24.19 18.04 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 19.39 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 19.39 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 19.39 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 19.39 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 19.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 09.23.19 19.39 | |
| o-Terphenyl | 84-15-1 | 124 | % | 70-135 | 09.23.19 19.39 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-006 | Date Collected: | 09.18.19 10.00 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 09.23.19 21.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 09.23.19 21.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 09.23.19 21.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 09.23.19 21.49 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-007 | Date Collected: | 09.18.19 10.23 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.32** | 4.98 | mg/kg | 09.24.19 18.10 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 09.23.19 20.00 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 09.23.19 20.00 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 09.23.19 20.00 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 09.23.19 20.00 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 09.23.19 20.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 133 | % | 70-135 | 09.23.19 20.00 | |
| o-Terphenyl | 84-15-1 | 128 | % | 70-135 | 09.23.19 20.00 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-007 | Date Collected: | 09.18.19 10.23 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 09.23.19 22.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 09.23.19 22.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 09.23.19 22.09 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-008 | Date Collected: | 09.18.19 10.42 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **18.8** | 4.95 | mg/kg | 09.24.19 18.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 20.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 20.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 20.20 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 20.20 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 20.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 09.23.19 20.20 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 09.23.19 20.20 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-008 | Date Collected: | 09.18.19 10.42 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 09.23.19 22.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.23.19 22.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 09.23.19 22.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 09.23.19 22.29 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-009 | Date Collected: | 09.18.19 14.00 | Sample Depth: | 5.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **55.2** | 5.02 | mg/kg | 09.24.19 18.36 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 20.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.23.19 20.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.23.19 20.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.23.19 20.41 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.23.19 20.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 132 | % | 70-135 | 09.23.19 20.41 | |
| o-Terphenyl | 84-15-1 | 130 | % | 70-135 | 09.23.19 20.41 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-009 | Date Collected: | 09.18.19 14.00 | Sample Depth: | 5.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 09.23.19 22.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 09.23.19 22.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 09.23.19 22.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 09.23.19 22.49 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-010 | Date Collected: | 09.18.19 14.03 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.4** | 5.00 | mg/kg | 09.24.19 18.43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 09.23.19 21.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 09.23.19 21.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 09.23.19 21.02 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 09.23.19 21.02 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 09.23.19 21.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 09.23.19 21.02 | |
| o-Terphenyl | 84-15-1 | 118 | % | 70-135 | 09.23.19 21.02 | |

# Certificate of Analytical Results 637573

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08A** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637573-010 | Date Collected: | 09.18.19 14.03 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3102256 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 09.23.19 23.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 09.23.19 23.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 09.23.19 23.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 95 | % | 70-130 | 09.23.19 23.09 | |

# 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 637573

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686737-1-BLK — LCS Sample Id: 7686737-1-BKS — LCSD Sample Id: 7686737-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 264 | 106 | 265 | 106 | 90-110 | 0 | 20 | mg/kg | 09.24.19 16:34 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637573-001 — MS Sample Id: 637573-001 S — MSD Sample Id: 637573-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.60 | 248 | 256 | 101 | 254 | 101 | 90-110 | 1 | 20 | mg/kg | 09.24.19 16:53 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637573-008 — MS Sample Id: 637573-008 S — MSD Sample Id: 637573-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18.8 | 248 | 281 | 106 | 279 | 105 | 90-110 | 1 | 20 | mg/kg | 09.24.19 18:23 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102310 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686732-1-BLK — LCS Sample Id: 7686732-1-BKS — LCSD Sample Id: 7686732-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 1110 | 111 | 1160 | 116 | 70-135 | 4 | 20 | mg/kg | 09.23.19 14:23 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 1100 | 110 | 1110 | 111 | 70-135 | 1 | 20 | mg/kg | 09.23.19 14:23 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | | 131 | | 132 | | 70-135 | % | 09.23.19 14:23 |
| o-Terphenyl | 118 | | 128 | | 124 | | 70-135 | % | 09.23.19 14:23 |

MS/MSD Percent Recovery — [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

# Analytical Report 636556

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos 108H**

**012919201**

**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): **636556**
**Mis Amigos 108H**
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) 636556. 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. 636556 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

# Sample Cross Reference 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 09-10-19 10:23 | 1 ft | 636556-001 |
| PH01A | S | 09-10-19 10:28 | 4 ft | 636556-002 |
| PH02 | S | 09-10-19 11:51 | 1 ft | 636556-003 |
| PH02A | S | 09-10-19 11:56 | 4 ft | 636556-004 |
| PH03 | S | 09-10-19 11:59 | 1 ft | 636556-005 |
| PH03A | S | 09-10-19 12:04 | 4 ft | 636556-006 |
| BH01 | S | 09-10-19 12:28 | 2 ft | 636556-007 |
| BH01A | S | 09-10-19 12:38 | 4 ft | 636556-008 |
| BH02 | S | 09-10-19 12:56 | 2 ft | 636556-009 |
| BH02A | S | 09-10-19 13:01 | 4 ft | 636556-010 |
| BH03 | S | 09-10-19 13:51 | 2 ft | 636556-011 |
| BH03A | S | 09-10-19 14:07 | 4 ft | 636556-012 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: Mis Amigos 108H***

Project ID: *012919201*
Work Order Number(s): *636556*

Report Date: *16-SEP-19*
Date Received: *09/11/2019*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3101329 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 636508-001 S,636508-001 SD.
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 636508-001 SD.

Batch: LBA-3101330 Chloride by EPA 300
Lab Sample ID 636556-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 636556-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3101384 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 636556

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed Sep-11-19 10:55 am
**Report Date:** 16-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 636556-001 | | 636556-002 | | 636556-003 | | 636556-004 | | 636556-005 | | 636556-006 | |
| | *Field Id:* | PH01 | | PH01A | | PH02 | | PH02A | | PH03 | | PH03A | |
| | *Depth:* | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Sep-10-19 10:23 | | Sep-10-19 10:28 | | Sep-10-19 11:51 | | Sep-10-19 11:56 | | Sep-10-19 11:59 | | Sep-10-19 12:04 | |
| **BTEX by EPA 8021B** | *Extracted:* | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | |
| | *Analyzed:* | Sep-11-19 16:04 | | Sep-11-19 16:24 | | Sep-11-19 16:44 | | Sep-11-19 17:43 | | Sep-11-19 18:03 | | Sep-11-19 18:23 | |
| | *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 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Toluene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Ethylbenzene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| m,p-Xylenes | | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| o-Xylene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Total Xylenes | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| Total BTEX | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000998 | 0.000998 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00100 | 0.00100 |
| **Chloride by EPA 300** | *Extracted:* | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | |
| | *Analyzed:* | Sep-11-19 18:23 | | Sep-11-19 18:44 | | Sep-11-19 18:51 | | Sep-11-19 18:58 | | Sep-11-19 19:05 | | Sep-11-19 19:26 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 171 | 9.96 | 117 | 9.88 | 12.9 | 9.94 | 24.3 | 9.98 | 547 | 19.7 | 656 | 19.7 |
| **TPH by SW8015 Mod** | *Extracted:* | Sep-11-19 13:00 | | Sep-11-19 13:00 | | Sep-11-19 13:00 | | Sep-11-19 13:00 | | Sep-11-19 13:00 | | Sep-11-19 13:00 | |
| | *Analyzed:* | Sep-11-19 18:30 | | Sep-11-19 18:51 | | Sep-11-19 19:11 | | Sep-11-19 19:32 | | Sep-11-19 19:52 | | Sep-11-19 20:13 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 |
| Diesel Range Organics (DRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <25.1 | 25.1 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 |
| Total GRO-DRO | | <25.1 | 25.1 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 |
| Total TPH | | <25.1 | 25.1 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 | <25.0 | 25.0 | <25.1 | 25.1 |





Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 636556

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed Sep-11-19 10:55 am
**Report Date:** 16-SEP-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lab Id: | 636556-007 | | 636556-008 | | 636556-009 | | 636556-010 | | 636556-011 | | 636556-012 | |
| | Field Id: | BH01 | | BH01A | | BH02 | | BH02A | | BH03 | | BH03A | |
| | Depth: | 2- ft | | 4- ft | | 2- ft | | 4- ft | | 2- ft | | 4- ft | |
| | Matrix: | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | Sampled: | Sep-10-19 12:28 | | Sep-10-19 12:38 | | Sep-10-19 12:56 | | Sep-10-19 13:01 | | Sep-10-19 13:51 | | Sep-10-19 14:07 | |
| **BTEX by EPA 8021B** | Extracted: | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | | Sep-11-19 12:00 | |
| | Analyzed: | Sep-11-19 18:43 | | Sep-11-19 19:03 | | Sep-11-19 19:22 | | Sep-11-19 19:42 | | Sep-11-19 20:02 | | Sep-11-19 20:22 | |
| | 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 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| Toluene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| Ethylbenzene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| m,p-Xylenes | | <0.00202 | 0.00202 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00202 | 0.00202 |
| o-Xylene | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| Total Xylenes | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| Total BTEX | | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.00101 | 0.00101 | <0.000990 | 0.000990 | <0.00101 | 0.00101 | <0.00101 | 0.00101 |
| **Chloride by EPA 300** | Extracted: | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | | Sep-11-19 12:09 | |
| | Analyzed: | Sep-11-19 19:33 | | Sep-11-19 19:41 | | Sep-11-19 19:47 | | Sep-11-19 19:54 | | Sep-11-19 20:01 | | Sep-11-19 20:22 | |
| | 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 | 14.0 | 9.92 | 14.4 | 10.0 | <9.82 | 9.82 | 22.8 | 9.88 |
| **TPH by SW8015 Mod** | Extracted: | Sep-11-19 13:00 | | Sep-11-19 13:00 | | Sep-11-19 14:30 | | Sep-11-19 14:30 | | Sep-11-19 14:30 | | Sep-11-19 14:30 | |
| | Analyzed: | Sep-11-19 20:34 | | Sep-11-19 20:54 | | Sep-11-19 22:37 | | Sep-11-19 23:39 | | Sep-11-19 23:59 | | Sep-12-19 00:20 | |
| | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <24.9 | 24.9 | <25.1 | 25.1 | <24.9 | 24.9 | <25.0 | 25.0 | <24.9 | 24.9 | <25.1 | 25.1 |
| Diesel Range Organics (DRO) | | <24.9 | 24.9 | <25.1 | 25.1 | <24.9 | 24.9 | 28.1 | 25.0 | <24.9 | 24.9 | <25.1 | 25.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <24.9 | 24.9 | <25.1 | 25.1 | <24.9 | 24.9 | <25.0 | 25.0 | <24.9 | 24.9 | <25.1 | 25.1 |
| Total GRO-DRO | | <24.9 | 24.9 | <25.1 | 25.1 | <24.9 | 24.9 | 28.1 | 25.0 | <24.9 | 24.9 | <25.1 | 25.1 |
| Total TPH | | <24.9 | 24.9 | <25.1 | 25.1 | <24.9 | 24.9 | 28.1 | 25.0 | <24.9 | 24.9 | <25.1 | 25.1 |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-001 | Date Collected: | 09.10.19 10.23 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **171** | 9.96 | mg/kg | 09.11.19 18.23 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.11.19 18.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.11.19 18.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.11.19 18.30 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.11.19 18.30 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.11.19 18.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 09.11.19 18.30 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 09.11.19 18.30 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-001 | Date Collected: | 09.10.19 10.23 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 16.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 09.11.19 16.04 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.11.19 16.04 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-002 | Date Collected: | 09.10.19 10.28 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **117** | 9.88 | mg/kg | 09.11.19 18.44 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.11.19 18.51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.11.19 18.51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.11.19 18.51 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.11.19 18.51 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.11.19 18.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 09.11.19 18.51 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 09.11.19 18.51 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-002 | Date Collected: | 09.10.19 10.28 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 16.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 16.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 09.11.19 16.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 09.11.19 16.24 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-003 | Date Collected: | 09.10.19 11.51 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.9** | 9.94 | mg/kg | 09.11.19 18.51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.0 | 25.0 | mg/kg | 09.11.19 19.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.0 | 25.0 | mg/kg | 09.11.19 19.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.0 | 25.0 | mg/kg | 09.11.19 19.11 | U | 1 |
| Total GRO-DRO | PHC628 | <25.0 | 25.0 | mg/kg | 09.11.19 19.11 | U | 1 |
| Total TPH | PHC635 | <25.0 | 25.0 | mg/kg | 09.11.19 19.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 09.11.19 19.11 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 09.11.19 19.11 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-003 | Date Collected: | 09.10.19 11.51 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |
| Toluene | 108-88-3 | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 09.11.19 16.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |
| Total BTEX | | <0.000998 | 0.000998 | mg/kg | 09.11.19 16.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 09.11.19 16.44 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 09.11.19 16.44 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-004 | Date Collected: | 09.10.19 11.56 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **24.3** | 9.98 | mg/kg | 09.11.19 18.58 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.11.19 19.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.11.19 19.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.11.19 19.32 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.11.19 19.32 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.11.19 19.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 122 | % | 70-135 | 09.11.19 19.32 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 09.11.19 19.32 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-004 | Date Collected: | 09.10.19 11.56 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 17.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 17.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 09.11.19 17.43 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 09.11.19 17.43 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-005 | Date Collected: | 09.10.19 11.59 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **547** | 19.7 | mg/kg | 09.11.19 19.05 | | 2 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.0 | 25.0 | mg/kg | 09.11.19 19.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.0 | 25.0 | mg/kg | 09.11.19 19.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.0 | 25.0 | mg/kg | 09.11.19 19.52 | U | 1 |
| Total GRO-DRO | PHC628 | <25.0 | 25.0 | mg/kg | 09.11.19 19.52 | U | 1 |
| Total TPH | PHC635 | <25.0 | 25.0 | mg/kg | 09.11.19 19.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 122 | % | 70-135 | 09.11.19 19.52 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 09.11.19 19.52 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-005 | Date Collected: | 09.10.19 11.59 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 18.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 09.11.19 18.03 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 09.11.19 18.03 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-006 | Date Collected: | 09.10.19 12.04 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **656** | 19.7 | mg/kg | 09.11.19 19.26 | | 2 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.11.19 20.13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.11.19 20.13 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.11.19 20.13 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.11.19 20.13 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.11.19 20.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 09.11.19 20.13 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 09.11.19 20.13 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-006 | Date Collected: | 09.10.19 12.04 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 09.11.19 18.23 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 09.11.19 18.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 09.11.19 18.23 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 09.11.19 18.23 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-007 | Date Collected: | 09.10.19 12.28 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.92 | 9.92 | mg/kg | 09.11.19 19.33 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <24.9 | 24.9 | mg/kg | 09.11.19 20.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <24.9 | 24.9 | mg/kg | 09.11.19 20.34 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <24.9 | 24.9 | mg/kg | 09.11.19 20.34 | U | 1 |
| Total GRO-DRO | PHC628 | <24.9 | 24.9 | mg/kg | 09.11.19 20.34 | U | 1 |
| Total TPH | PHC635 | <24.9 | 24.9 | mg/kg | 09.11.19 20.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 09.11.19 20.34 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 09.11.19 20.34 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-007 | Date Collected: | 09.10.19 12.28 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 18.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 18.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 09.11.19 18.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 09.11.19 18.43 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-008 | Date Collected: | 09.10.19 12.38 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 09.11.19 19.41 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3101329 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.11.19 20.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.11.19 20.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.11.19 20.54 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.11.19 20.54 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.11.19 20.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 127 | % | 70-135 | 09.11.19 20.54 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 09.11.19 20.54 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-008 | Date Collected: | 09.10.19 12.38 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 19.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 09.11.19 19.03 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 09.11.19 19.03 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-009 | Date Collected: | 09.10.19 12.56 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.0** | 9.92 | mg/kg | 09.11.19 19.47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3101292 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <24.9 | 24.9 | mg/kg | 09.11.19 22.37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <24.9 | 24.9 | mg/kg | 09.11.19 22.37 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <24.9 | 24.9 | mg/kg | 09.11.19 22.37 | U | 1 |
| Total GRO-DRO | PHC628 | <24.9 | 24.9 | mg/kg | 09.11.19 22.37 | U | 1 |
| Total TPH | PHC635 | <24.9 | 24.9 | mg/kg | 09.11.19 22.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 09.11.19 22.37 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 09.11.19 22.37 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-009 | Date Collected: | 09.10.19 12.56 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00201 | 0.00201 | mg/kg | 09.11.19 19.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 19.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 09.11.19 19.22 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 09.11.19 19.22 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-010 | Date Collected: | 09.10.19 13.01 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.4** | 10.0 | mg/kg | 09.11.19 19.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3101292 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.0 | 25.0 | mg/kg | 09.11.19 23.39 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **28.1** | 25.0 | mg/kg | 09.11.19 23.39 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.0 | 25.0 | mg/kg | 09.11.19 23.39 | U | 1 |
| **Total GRO-DRO** | PHC628 | **28.1** | 25.0 | mg/kg | 09.11.19 23.39 | | 1 |
| **Total TPH** | PHC635 | **28.1** | 25.0 | mg/kg | 09.11.19 23.39 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 129 | % | 70-135 | 09.11.19 23.39 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 09.11.19 23.39 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-010 | Date Collected: | 09.10.19 13.01 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |
| Toluene | 108-88-3 | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00198 | 0.00198 | mg/kg | 09.11.19 19.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |
| Total BTEX | | <0.000990 | 0.000990 | mg/kg | 09.11.19 19.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 09.11.19 19.42 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 09.11.19 19.42 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-011 | Date Collected: | 09.10.19 13.51 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.82 | 9.82 | mg/kg | 09.11.19 20.01 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3101292 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <24.9 | 24.9 | mg/kg | 09.11.19 23.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <24.9 | 24.9 | mg/kg | 09.11.19 23.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <24.9 | 24.9 | mg/kg | 09.11.19 23.59 | U | 1 |
| Total GRO-DRO | PHC628 | <24.9 | 24.9 | mg/kg | 09.11.19 23.59 | U | 1 |
| Total TPH | PHC635 | <24.9 | 24.9 | mg/kg | 09.11.19 23.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 122 | % | 70-135 | 09.11.19 23.59 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 09.11.19 23.59 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-011 | Date Collected: | 09.10.19 13.51 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 20.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 09.11.19 20.02 | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 09.11.19 20.02 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-012 | Date Collected: | 09.10.19 14.07 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.11.19 12.09 | Basis: | Wet Weight |
| Seq Number: | 3101330 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.8** | 9.88 | mg/kg | 09.11.19 20.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 14.30 | Basis: | Wet Weight |
| Seq Number: | 3101292 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <25.1 | 25.1 | mg/kg | 09.12.19 00.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <25.1 | 25.1 | mg/kg | 09.12.19 00.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <25.1 | 25.1 | mg/kg | 09.12.19 00.20 | U | 1 |
| Total GRO-DRO | PHC628 | <25.1 | 25.1 | mg/kg | 09.12.19 00.20 | U | 1 |
| Total TPH | PHC635 | <25.1 | 25.1 | mg/kg | 09.12.19 00.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 09.12.19 00.20 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 09.12.19 00.20 | |

# Certificate of Analytical Results 636556

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 09.11.19 10.55 |
| Lab Sample Id: | 636556-012 | Date Collected: | 09.10.19 14.07 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.11.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3101384 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |
| Toluene | 108-88-3 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00202 | 0.00202 | mg/kg | 09.11.19 20.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |
| Total BTEX | | <0.00101 | 0.00101 | mg/kg | 09.11.19 20.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 09.11.19 20.22 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 09.11.19 20.22 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

**+** NELAC certification not offered for this compound.

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

# QC Summary 636556

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101330 — Matrix: Solid — Date Prep: 09.11.19
MB Sample Id: 7685958-1-BLK — LCS Sample Id: 7685958-1-BKS — LCSD Sample Id: 7685958-1-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 | 261 | 104 | 260 | 104 | 90-110 | 0 | 20 | mg/kg | 09.11.19 18:10 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101330 — Matrix: Soil — Date Prep: 09.11.19
Parent Sample Id: 636556-001 — MS Sample Id: 636556-001 S — MSD Sample Id: 636556-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 171 | 199 | 403 | 117 | 407 | 119 | 90-110 | 1 | 20 | mg/kg | 09.11.19 18:30 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101330 — Matrix: Soil — Date Prep: 09.11.19
Parent Sample Id: 636556-011 — MS Sample Id: 636556-011 S — MSD Sample Id: 636556-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 9.58 | 197 | 225 | 109 | 217 | 105 | 90-110 | 4 | 20 | mg/kg | 09.11.19 20:08 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101329 — Matrix: Solid — Date Prep: 09.11.19
MB Sample Id: 7686136-1-BLK — LCS Sample Id: 7686136-1-BKS — LCSD Sample Id: 7686136-1-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 | 916 | 92 | 918 | 92 | 70-135 | 0 | 35 | mg/kg | 09.11.19 12:39 | |
| Diesel Range Organics (DRO) | <25.0 | 1000 | 851 | 85 | 852 | 85 | 70-135 | 0 | 35 | mg/kg | 09.11.19 12:39 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 116 | | 124 | | 120 | | 70-135 | % | 09.11.19 12:39 |
| o-Terphenyl | 95 | | 115 | | 108 | | 70-135 | % | 09.11.19 12:39 |

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 636556

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101292 — Matrix: Solid — Date Prep: 09.11.19
MB Sample Id: 7686107-1-BLK — LCS Sample Id: 7686107-1-BKS — LCSD Sample Id: 7686107-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <9.88 | 1000 | 907 | 91 | 912 | 91 | 70-135 | 1 | 35 | mg/kg | 09.11.19 21:56 | |
| Diesel Range Organics (DRO) | <9.88 | 1000 | 845 | 85 | 870 | 87 | 70-135 | 3 | 35 | mg/kg | 09.11.19 21:56 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 126 | | 128 | | 127 | | 70-135 | % | 09.11.19 21:56 |
| o-Terphenyl | 124 | | 117 | | 122 | | 70-135 | % | 09.11.19 21:56 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101329 — Matrix: Soil — Date Prep: 09.11.19
Parent Sample Id: 636508-001 — MS Sample Id: 636508-001 S — MSD Sample Id: 636508-001 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) | <25.1 | 1010 | 979 | 97 | 1140 | 114 | 70-135 | 15 | 35 | mg/kg | 09.11.19 13:41 | |
| Diesel Range Organics (DRO) | 31.0 | 1010 | 936 | 90 | 1120 | 109 | 70-135 | 18 | 35 | mg/kg | 09.11.19 13:41 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 138 | ** | 149 | ** | 70-135 | % | 09.11.19 13:41 |
| o-Terphenyl | 128 | | 152 | ** | 70-135 | % | 09.11.19 13:41 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101292 — Matrix: Soil — Date Prep: 09.11.19
Parent Sample Id: 636556-009 — MS Sample Id: 636556-009 S — MSD Sample Id: 636556-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <9.92 | 1000 | 937 | 94 | 899 | 90 | 70-135 | 4 | 35 | mg/kg | 09.11.19 22:58 | |
| Diesel Range Organics (DRO) | <9.92 | 1000 | 885 | 89 | 841 | 85 | 70-135 | 5 | 35 | mg/kg | 09.11.19 22:58 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 130 | | 129 | | 70-135 | % | 09.11.19 22:58 |
| o-Terphenyl | 123 | | 114 | | 70-135 | % | 09.11.19 22:58 |

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 636556

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3101384 | Matrix: Solid | Date Prep: 09.11.19
MB Sample Id: 7686177-1-BLK | LCS Sample Id: 7686177-1-BKS | LCSD Sample Id: 7686177-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | 0.100 | 0.0871 | 87 | 0.0876 | 88 | 70-130 | 1 | 35 | mg/kg | 09.11.19 11:28 | |
| Toluene | <0.00100 | 0.100 | 0.0887 | 89 | 0.0877 | 88 | 70-130 | 1 | 35 | mg/kg | 09.11.19 11:28 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.108 | 108 | 0.109 | 109 | 71-129 | 1 | 35 | mg/kg | 09.11.19 11:28 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.225 | 113 | 0.225 | 113 | 70-135 | 0 | 35 | mg/kg | 09.11.19 11:28 | |
| o-Xylene | <0.00100 | 0.100 | 0.112 | 112 | 0.114 | 114 | 71-133 | 2 | 35 | mg/kg | 09.11.19 11:28 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 104 | | 99 | | 70-130 | % | 09.11.19 11:28 |
| 4-Bromofluorobenzene | 100 | | 119 | | 113 | | 70-130 | % | 09.11.19 11:28 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3101384 | Matrix: Soil | Date Prep: 09.11.19
Parent Sample Id: 636506-002 | MS Sample Id: 636506-002 S | MSD Sample Id: 636506-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00101 | 0.101 | 0.0866 | 86 | 0.0853 | 84 | 70-130 | 2 | 35 | mg/kg | 09.11.19 13:46 | |
| Toluene | <0.00101 | 0.101 | 0.0828 | 82 | 0.0863 | 85 | 70-130 | 4 | 35 | mg/kg | 09.11.19 13:46 | |
| Ethylbenzene | <0.00101 | 0.101 | 0.0987 | 98 | 0.0882 | 87 | 71-129 | 11 | 35 | mg/kg | 09.11.19 13:46 | |
| m,p-Xylenes | <0.00101 | 0.202 | 0.202 | 100 | 0.180 | 90 | 70-135 | 12 | 35 | mg/kg | 09.11.19 13:46 | |
| o-Xylene | <0.00101 | 0.101 | 0.104 | 103 | 0.0924 | 91 | 71-133 | 12 | 35 | mg/kg | 09.11.19 13:46 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 111 | | 113 | | 70-130 | % | 09.11.19 13:46 |
| 4-Bromofluorobenzene | 124 | | 125 | | 70-130 | % | 09.11.19 13:46 |

MS/MSD Percent Recovery [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: 1636556

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 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: | Mis Amigos 108H | Turn Around | |
| Project Number: | 012919201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Temperature (°C): | 1.6 | Thermometer ID | TNM007 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 12 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| PH01 | S | 09/10/19 | 1023 | 1' | 1 | X | X | X | |
| PH01A | | | 1028 | 4' | | | | | |
| PH02 | | | 1151 | 1' | | | | | |
| PH02A | | | 1156 | 4' | | | | | |
| PH03 | | | 1159 | 1' | | | | | |
| PH03A | | | 1204 | 4' | | | | | |
| BH01 | | | 1228 | 2' | | | | | |
| BH01A | | | 1238 | 4' | | | | | |
| BH02 | | | 1256 | 2' | | | | | |
| BH02A | ↓ | ↓ | 1301 | 4' | ↓ | ↓ | ↓ | ↓ | |

**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 | | 09/11/2019 10:20 | 2 | Corina | 09/11/19 10:55 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# Chain of Custody

Work Order No: 636556

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: | 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: | Mis Amigos 108H | Turn Around | |
| Project Number: | 012919201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| 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) |
|---|---|---|---|---|---|---|---|---|
| BH03 | S | 09/10/19 | 1351 | 2' | 1 | X | X | X |
| BH03A | S | 09/10/19 | 1407 | 4' | 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



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | Fatima Smith | | 09/11/2019 10:20 | 2 | Cardy | 09/11/2019 10:58 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09.11.2019 10.55.00 AM

**Work Order #:** 636556

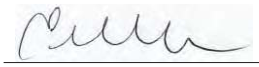
**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

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

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 1.6 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **No** |
| #5 Custody Seals intact on sample bottles? | **No** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:**  Date: 09.11.2019
Elizabeth McClellan

**Checklist reviewed by:**  Date: 09.11.2019
Martha Castro

# QC Summary 637573

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102310 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637501-001 — MS Sample Id: 637501-001 S — MSD Sample Id: 637501-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 999 | 1160 | 116 | 1180 | 118 | 70-135 | 2 | 20 | mg/kg | 09.23.19 15:26 | |
| Diesel Range Organics (DRO) | 438 | 999 | 1440 | 100 | 1450 | 102 | 70-135 | 1 | 20 | mg/kg | 09.23.19 15:26 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 124 | | 126 | | 70-135 | % | 09.23.19 15:26 |
| o-Terphenyl | 116 | | 120 | | 70-135 | % | 09.23.19 15:26 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102256 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686708-1-BLK — LCS Sample Id: 7686708-1-BKS — LCSD Sample Id: 7686708-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.111 | 111 | 0.0921 | 92 | 70-130 | 19 | 35 | mg/kg | 09.24.19 09:21 | |
| Toluene | <0.00200 | 0.100 | 0.107 | 107 | 0.0845 | 85 | 70-130 | 23 | 35 | mg/kg | 09.24.19 09:21 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.115 | 115 | 0.0855 | 86 | 70-130 | 29 | 35 | mg/kg | 09.24.19 09:21 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.225 | 113 | 0.166 | 83 | 70-130 | 30 | 35 | mg/kg | 09.24.19 09:21 | |
| o-Xylene | <0.00200 | 0.100 | 0.114 | 114 | 0.0868 | 87 | 70-130 | 27 | 35 | mg/kg | 09.24.19 09:21 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 96 | | 102 | | 100 | | 70-130 | % | 09.24.19 09:21 |
| 4-Bromofluorobenzene | 93 | | 108 | | 104 | | 70-130 | % | 09.24.19 09:21 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102256 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637499-001 — MS Sample Id: 637499-001 S — MSD Sample Id: 637499-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.107 | 107 | 0.0975 | 98 | 70-130 | 9 | 35 | mg/kg | 09.23.19 15:50 | |
| Toluene | <0.00200 | 0.100 | 0.104 | 104 | 0.0934 | 94 | 70-130 | 11 | 35 | mg/kg | 09.23.19 15:50 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.108 | 108 | 0.0947 | 95 | 70-130 | 13 | 35 | mg/kg | 09.23.19 15:50 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.209 | 105 | 0.184 | 92 | 70-130 | 13 | 35 | mg/kg | 09.23.19 15:50 | |
| o-Xylene | <0.00200 | 0.100 | 0.105 | 105 | 0.0930 | 93 | 70-130 | 12 | 35 | mg/kg | 09.23.19 15:50 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 102 | | 70-130 | % | 09.23.19 15:50 |
| 4-Bromofluorobenzene | 109 | | 104 | | 70-130 | % | 09.23.19 15:50 |

MS/MSD Percent Recovery — [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
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: 637573

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: | 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: | Mis Amigos 108H | Turn Around | |
| Project Number: | 012919201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 1.4 | 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: | 10 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| BH04 | S | 09/17/19 | 1504 | 2' | 1 | X | X | X |
| BH04A | | 09/17/19 | 1531 | 6' | | | | |
| BH05 | | 09/18/19 | 0901 | 1' | | | | |
| BH05A | | | 0930 | 6' | | | | |
| BH06 | | | 0940 | 1' | | | | |
| BH06A | | | 1000 | 6' | | | | |
| BH07 | | | 1023 | 1' | | | | |
| BH07A | | | 1042 | 6' | | | | |
| BH08 | | | 1400 | 5.5' | | | | |
| BH08A | | | 1403 | 6' | | | | |

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



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | Fatima Smith | | 9/19 9/20/19 12:35 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# Inter-Office Shipment



**IOS Number** **48479**

Date/Time: 09/20/19 13:56
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776300846223

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 637573-001 | S | BH04 | 09/17/19 15:04 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/01/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-001 | S | BH04 | 09/17/19 15:04 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/01/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-001 | S | BH04 | 09/17/19 15:04 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/15/20 | JKR | CL | |
| 637573-002 | S | BH04A | 09/17/19 15:31 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/01/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-002 | S | BH04A | 09/17/19 15:31 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/15/20 | JKR | CL | |
| 637573-002 | S | BH04A | 09/17/19 15:31 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/01/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-003 | S | BH05 | 09/18/19 09:11 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-003 | S | BH05 | 09/18/19 09:11 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-003 | S | BH05 | 09/18/19 09:11 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-004 | S | BH05A | 09/18/19 09:30 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-004 | S | BH05A | 09/18/19 09:30 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-004 | S | BH05A | 09/18/19 09:30 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-005 | S | BH06 | 09/18/19 09:40 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-005 | S | BH06 | 09/18/19 09:40 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-005 | S | BH06 | 09/18/19 09:40 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-006 | S | BH06A | 09/18/19 10:00 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-006 | S | BH06A | 09/18/19 10:00 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-006 | S | BH06A | 09/18/19 10:00 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-007 | S | BH07 | 09/18/19 10:23 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-007 | S | BH07 | 09/18/19 10:23 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-007 | S | BH07 | 09/18/19 10:23 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-008 | S | BH07A | 09/18/19 10:42 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-008 | S | BH07A | 09/18/19 10:42 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-008 | S | BH07A | 09/18/19 10:42 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 637573-009 | S | BH08 | 09/18/19 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PI | |

# Inter-Office Shipment



**IOS Number** **48479**

Date/Time: 09/20/19 13:56
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776300846223

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 637573-009 | S | BH08 | 09/18/19 14:00 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-009 | S | BH08 | 09/18/19 14:00 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-010 | S | BH08A | 09/18/19 14:03 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637573-010 | S | BH08A | 09/18/19 14:03 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637573-010 | S | BH08A | 09/18/19 14:03 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Elizabeth McClellan

Date Relinquished: 09/20/2019

Received By: Brianna Teel

Date Received: 09/23/2019 08:09

Cooler Temperature: 0.4

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 48479

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**
**Temperature Measuring device used : R8**

**Sent By:** Elizabeth McClellan **Date Sent:** 09/20/2019 01:56 PM

**Received By:** Brianna Teel **Date Received:** 09/23/2019 08:09 AM

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

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

**Contact:** _____ **Contacted by :** _____ **Date:** _____

**Checklist reviewed by:** Brianna Teel Date: 09/23/2019

Brianna Teel

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/20/2019 12:38:00 PM

**Work Order #:** 637573

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 1.4 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received on ice? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** | |
| #5 Custody Seals intact on sample bottles? | **Yes** | |
| #6*Custody Seals Signed and dated? | **Yes** | |
| #7 *Chain of Custody present? | **Yes** | |
| #8 Any missing/extra samples? | **No** | |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** | |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** | |
| #11 Container label(s) legible and intact? | **Yes** | |
| #12 Samples in proper container/ bottle? | **Yes** | |
| #13 Samples properly preserved? | **Yes** | |
| #14 Sample container(s) intact? | **Yes** | |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #16 All samples received within hold time? | **Yes** | |
| #17 Subcontract of sample(s)? | **Yes** | Subbed to Midland |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 09/20/2019

**Checklist reviewed by:** Jessica Kramer Date: 09/23/2019

Jessica Kramer

# Analytical Report 637578

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos 108H**

**012919201**

**25-SEP-19**

Collected By: Client


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

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-21), Arizona (AZ0809), Arkansas (17-063-0)

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

25-SEP-19

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

Reference: XENCO Report No(s): **637578**
**Mis Amigos 108H**
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) 637578. 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. 637578 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 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| FS03 | S | 09-18-19 11:06 | 5 ft | 637578-001 |
| FS04 | S | 09-18-19 11:13 | 1 ft | 637578-002 |
| SW04 | S | 09-18-19 11:20 | 0 - 6 ft | 637578-003 |
| SW05 | S | 09-18-19 11:27 | 0 - 5 ft | 637578-004 |
| SW06 | S | 09-18-19 11:29 | 0 - 5 ft | 637578-005 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: Mis Amigos 108H***

Project ID: *012919201*
Work Order Number(s): *637578*

Report Date: *25-SEP-19*
Date Received: *09/20/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3102310 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 637578-001,637578-002,637578-005,637578-004,637578-003.

Batch: LBA-3102342 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits . Samples affected are: 7686707-1-BKS,7686707-1-BLK,7686707-1-BSD,637578-001 S,637578-001 SD,637578-005,637578-001,637578-003,637578-004.

Ethylbenzene, 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: 637578-001, -002, -003, -004, -005
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 637578-001 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 recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. o-Xylene recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 637578-001, -002, -003, -004, -005.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 637578

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Fri Sep-20-19 12:38 pm
**Report Date:** 25-SEP-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 637578-001 | | 637578-002 | | 637578-003 | | 637578-004 | | 637578-005 | | | | | | |
| | ***Field Id:*** | FS03 | | FS04 | | SW04 | | SW05 | | SW06 | | | | | | |
| | ***Depth:*** | 5- ft | | 1- ft | | 0-6 ft | | 0-5 ft | | 0-5 ft | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | | | | | |
| | ***Sampled:*** | Sep-18-19 11:06 | | Sep-18-19 11:13 | | Sep-18-19 11:20 | | Sep-18-19 11:27 | | Sep-18-19 11:29 | | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Sep-23-19 14:15 | | Sep-23-19 14:15 | | Sep-23-19 14:15 | | Sep-23-19 14:15 | | Sep-23-19 14:15 | | | | | | |
| **SUB: T104704400-18-18** | ***Analyzed:*** | Sep-24-19 10:44 | | Sep-24-19 11:04 | | Sep-24-19 11:24 | | Sep-24-19 11:45 | | Sep-24-19 12:05 | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.00901 | 0.00200 | <0.00200 | 0.00200 | | | | | |
| m,p-Xylenes | | 0.0559 | 0.00400 | <0.00400 | 0.00400 | <0.00400 | 0.00400 | 0.217 | 0.00400 | 0.0703 | 0.00400 | | | | | |
| o-Xylene | | 0.0221 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.217 | 0.00200 | 0.0385 | 0.00200 | | | | | |
| Total Xylenes | | 0.0780 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.434 | 0.00200 | 0.109 | 0.00200 | | | | | |
| Total BTEX | | 0.0780 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | 0.443 | 0.00200 | 0.109 | 0.00200 | | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | Sep-23-19 16:00 | | | | | | |
| **SUB: T104704400-18-18** | ***Analyzed:*** | Sep-24-19 19:02 | | Sep-24-19 19:08 | | Sep-24-19 19:15 | | Sep-24-19 19:21 | | Sep-24-19 19:28 | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | |
| Chloride | | 84.1 | 5.00 | 287 | 5.04 | 274 | 5.01 | 39.2 | 4.96 | 260 | 4.98 | | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | Sep-23-19 14:00 | | | | | | |
| **SUB: T104704400-18-18** | ***Analyzed:*** | Sep-23-19 21:23 | | Sep-23-19 21:44 | | Sep-23-19 22:05 | | Sep-23-19 22:26 | | Sep-23-19 22:47 | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <49.8 | 49.8 | <50.0 | 50.0 | <50.0 | 50.0 | 173 | 50.0 | <49.8 | 49.8 | | | | | |
| Diesel Range Organics (DRO) | | 706 | 49.8 | 780 | 50.0 | 1030 | 50.0 | 2600 | 50.0 | 1290 | 49.8 | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 52.9 | 49.8 | 61.3 | 50.0 | 85.5 | 50.0 | 180 | 50.0 | 103 | 49.8 | | | | | |
| Total GRO-DRO | | 706 | 49.8 | 780 | 50.0 | 1030 | 50.0 | 2770 | 50.0 | 1290 | 49.8 | | | | | |
| Total TPH | | 759 | 49.8 | 841 | 50.0 | 1120 | 50.0 | 2950 | 50.0 | 1390 | 49.8 | | | | | |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS03** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-001 | Date Collected: | 09.18.19 11.06 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **84.1** | 5.00 | mg/kg | 09.24.19 19.02 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 09.23.19 21.23 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **706** | 49.8 | mg/kg | 09.23.19 21.23 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **52.9** | 49.8 | mg/kg | 09.23.19 21.23 | | 1 |
| **Total GRO-DRO** | PHC628 | **706** | 49.8 | mg/kg | 09.23.19 21.23 | | 1 |
| **Total TPH** | PHC635 | **759** | 49.8 | mg/kg | 09.23.19 21.23 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 127 | % | 70-135 | 09.23.19 21.23 | |
| o-Terphenyl | 84-15-1 | 137 | % | 70-135 | 09.23.19 21.23 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS03** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-001 | Date Collected: | 09.18.19 11.06 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.15 | Basis: | Wet Weight |
| Seq Number: | 3102342 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.24.19 10.44 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.24.19 10.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.24.19 10.44 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0559** | 0.00400 | mg/kg | 09.24.19 10.44 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0221** | 0.00200 | mg/kg | 09.24.19 10.44 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0780** | 0.00200 | mg/kg | 09.24.19 10.44 | | 1 |
| **Total BTEX** | | **0.0780** | 0.00200 | mg/kg | 09.24.19 10.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 150 | % | 70-130 | 09.24.19 10.44 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 70-130 | 09.24.19 10.44 | |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-002 | Date Collected: | 09.18.19 11.13 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **287** | 5.04 | mg/kg | 09.24.19 19.08 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 21.44 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **780** | 50.0 | mg/kg | 09.23.19 21.44 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **61.3** | 50.0 | mg/kg | 09.23.19 21.44 | | 1 |
| **Total GRO-DRO** | PHC628 | **780** | 50.0 | mg/kg | 09.23.19 21.44 | | 1 |
| **Total TPH** | PHC635 | **841** | 50.0 | mg/kg | 09.23.19 21.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 129 | % | 70-135 | 09.23.19 21.44 | |
| o-Terphenyl | 84-15-1 | 141 | % | 70-135 | 09.23.19 21.44 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **FS04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-002 | Date Collected: | 09.18.19 11.13 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.15 | Basis: | Wet Weight |
| Seq Number: | 3102342 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 09.24.19 11.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 09.24.19 11.04 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 09.24.19 11.04 | |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-003 | Date Collected: | 09.18.19 11.20 | Sample Depth: | 0 - 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **274** | 5.01 | mg/kg | 09.24.19 19.15 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.23.19 22.05 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1030** | 50.0 | mg/kg | 09.23.19 22.05 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **85.5** | 50.0 | mg/kg | 09.23.19 22.05 | | 1 |
| **Total GRO-DRO** | PHC628 | **1030** | 50.0 | mg/kg | 09.23.19 22.05 | | 1 |
| **Total TPH** | PHC635 | **1120** | 50.0 | mg/kg | 09.23.19 22.05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 131 | % | 70-135 | 09.23.19 22.05 | |
| o-Terphenyl | 84-15-1 | 141 | % | 70-135 | 09.23.19 22.05 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW04** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-003 | Date Collected: | 09.18.19 11.20 | Sample Depth: | 0 - 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.15 | Basis: | Wet Weight |
| Seq Number: | 3102342 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 09.24.19 11.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 139 | % | 70-130 | 09.24.19 11.24 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 85 | % | 70-130 | 09.24.19 11.24 | |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW05** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-004 | Date Collected: | 09.18.19 11.27 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.2** | 4.96 | mg/kg | 09.24.19 19.21 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **173** | 50.0 | mg/kg | 09.23.19 22.26 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2600** | 50.0 | mg/kg | 09.23.19 22.26 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **180** | 50.0 | mg/kg | 09.23.19 22.26 | | 1 |
| **Total GRO-DRO** | PHC628 | **2770** | 50.0 | mg/kg | 09.23.19 22.26 | | 1 |
| **Total TPH** | PHC635 | **2950** | 50.0 | mg/kg | 09.23.19 22.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 132 | % | 70-135 | 09.23.19 22.26 | |
| o-Terphenyl | 84-15-1 | 193 | % | 70-135 | 09.23.19 22.26 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW05** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-004 | Date Collected: | 09.18.19 11.27 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.15 | Basis: | Wet Weight |
| Seq Number: | 3102342 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.45 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.24.19 11.45 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00901** | 0.00200 | mg/kg | 09.24.19 11.45 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.217** | 0.00400 | mg/kg | 09.24.19 11.45 | | 1 |
| **o-Xylene** | 95-47-6 | **0.217** | 0.00200 | mg/kg | 09.24.19 11.45 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.434** | 0.00200 | mg/kg | 09.24.19 11.45 | | 1 |
| **Total BTEX** | | **0.443** | 0.00200 | mg/kg | 09.24.19 11.45 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 85 | % | 70-130 | 09.24.19 11.45 | |
| 4-Bromofluorobenzene | 460-00-4 | 202 | % | 70-130 | 09.24.19 11.45 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW06** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-005 | Date Collected: | 09.18.19 11.29 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 09.23.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3102358 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **260** | 4.98 | mg/kg | 09.24.19 19.28 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 09.23.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3102310 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 09.23.19 22.47 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1290** | 49.8 | mg/kg | 09.23.19 22.47 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **103** | 49.8 | mg/kg | 09.23.19 22.47 | | 1 |
| **Total GRO-DRO** | PHC628 | **1290** | 49.8 | mg/kg | 09.23.19 22.47 | | 1 |
| **Total TPH** | PHC635 | **1390** | 49.8 | mg/kg | 09.23.19 22.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 09.23.19 22.47 | |
| o-Terphenyl | 84-15-1 | 149 | % | 70-135 | 09.23.19 22.47 | ** |

# Certificate of Analytical Results 637578

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SW06** | Matrix: | Soil | Date Received: | 09.20.19 12.38 |
| Lab Sample Id: | 637578-005 | Date Collected: | 09.18.19 11.29 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 09.23.19 14.15 | Basis: | Wet Weight |
| Seq Number: | 3102342 | | | SUB: | T104704400-18-18 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 09.24.19 12.05 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 09.24.19 12.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 09.24.19 12.05 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0703** | 0.00400 | mg/kg | 09.24.19 12.05 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0385** | 0.00200 | mg/kg | 09.24.19 12.05 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.109** | 0.00200 | mg/kg | 09.24.19 12.05 | | 1 |
| **Total BTEX** | | **0.109** | 0.00200 | mg/kg | 09.24.19 12.05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 70-130 | 09.24.19 12.05 | |
| 4-Bromofluorobenzene | 460-00-4 | 156 | % | 70-130 | 09.24.19 12.05 | ** |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

**+** NELAC certification not offered for this compound.

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

# QC Summary 637578

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686737-1-BLK — LCS Sample Id: 7686737-1-BKS — LCSD Sample Id: 7686737-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 264 | 106 | 265 | 106 | 90-110 | 0 | 20 | mg/kg | 09.24.19 16:34 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637573-001 — MS Sample Id: 637573-001 S — MSD Sample Id: 637573-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.60 | 248 | 256 | 101 | 254 | 101 | 90-110 | 1 | 20 | mg/kg | 09.24.19 16:53 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102358 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637573-008 — MS Sample Id: 637573-008 S — MSD Sample Id: 637573-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18.8 | 248 | 281 | 106 | 279 | 105 | 90-110 | 1 | 20 | mg/kg | 09.24.19 18:23 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102310 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686732-1-BLK — LCS Sample Id: 7686732-1-BKS — LCSD Sample Id: 7686732-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 1110 | 111 | 1160 | 116 | 70-135 | 4 | 20 | mg/kg | 09.23.19 14:23 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 1100 | 110 | 1110 | 111 | 70-135 | 1 | 20 | mg/kg | 09.23.19 14:23 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | | 131 | | 132 | | 70-135 | % | 09.23.19 14:23 |
| o-Terphenyl | 118 | | 128 | | 124 | | 70-135 | % | 09.23.19 14:23 |

MS/MSD Percent Recovery — [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 637578

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102310 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637501-001 — MS Sample Id: 637501-001 S — MSD Sample Id: 637501-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 999 | 1160 | 116 | 1180 | 118 | 70-135 | 2 | 20 | mg/kg | 09.23.19 15:26 | |
| Diesel Range Organics (DRO) | 438 | 999 | 1440 | 100 | 1450 | 102 | 70-135 | 1 | 20 | mg/kg | 09.23.19 15:26 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 124 | | 126 | | 70-135 | % | 09.23.19 15:26 |
| o-Terphenyl | 116 | | 120 | | 70-135 | % | 09.23.19 15:26 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102342 — Matrix: Solid — Date Prep: 09.23.19
MB Sample Id: 7686707-1-BLK — LCS Sample Id: 7686707-1-BKS — LCSD Sample Id: 7686707-1-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 | 0.108 | 108 | 70-130 | 5 | 35 | mg/kg | 09.24.19 08:24 | |
| Toluene | <0.00200 | 0.100 | 0.108 | 108 | 0.111 | 111 | 70-130 | 3 | 35 | mg/kg | 09.24.19 08:24 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.121 | 121 | 0.122 | 122 | 70-130 | 1 | 35 | mg/kg | 09.24.19 08:24 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.255 | 128 | 0.259 | 130 | 70-130 | 2 | 35 | mg/kg | 09.24.19 08:24 | |
| o-Xylene | <0.00200 | 0.100 | 0.125 | 125 | 0.127 | 127 | 70-130 | 2 | 35 | mg/kg | 09.24.19 08:24 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 92 | | 88 | | 91 | | 70-130 | % | 09.24.19 08:24 |
| 4-Bromofluorobenzene | 147 | ** | 134 | ** | 136 | ** | 70-130 | % | 09.24.19 08:24 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102342 — Matrix: Soil — Date Prep: 09.23.19
Parent Sample Id: 637578-001 — MS Sample Id: 637578-001 S — MSD Sample Id: 637578-001 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 | 0.0576 | 58 | 0.0738 | 74 | 70-130 | 25 | 35 | mg/kg | 09.24.19 09:04 | X |
| Toluene | <0.00200 | 0.100 | 0.0199 | 20 | 0.0217 | 22 | 70-130 | 9 | 35 | mg/kg | 09.24.19 09:04 | X |
| Ethylbenzene | <0.00200 | 0.100 | 0.0220 | 22 | 0.0318 | 32 | 70-130 | 36 | 35 | mg/kg | 09.24.19 09:04 | XF |
| m,p-Xylenes | 0.0559 | 0.200 | 0.0797 | 12 | 0.143 | 44 | 70-130 | 57 | 35 | mg/kg | 09.24.19 09:04 | XF |
| o-Xylene | 0.0221 | 0.100 | 0.0927 | 71 | 0.163 | 141 | 70-130 | 55 | 35 | mg/kg | 09.24.19 09:04 | XF |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 83 | | 91 | | 70-130 | % | 09.24.19 09:04 |
| 4-Bromofluorobenzene | 165 | ** | 186 | ** | 70-130 | % | 09.24.19 09:04 |

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: 0357578

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: | 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: | Mis Amigos 108H | Turn Around | |
| Project Number: | 012919201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | all 9/20 #1 1.4 | 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: | 9 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| FS03 | S | 09/18/19 | 1106 | 5' | 1 | X | X | X |
| FS04 | S | 09/18/19 | 1113 | 1' | 1 | X | X | X |
| SW04 | S | 09/18/19 | 1120 | 0-6' | 1 | X | X | X |
| SW05 | S | 09/18/19 | 1127 | 0-5' | 1 | X | X | X |
| SW06 | S | 09/18/19 | 1129 | 0-5' | 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 | | 9/20/19 12:38 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# Inter-Office Shipment



**IOS Number** **48482**

Date/Time: 09/20/19 14:07
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776300846223

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 637578-001 | S | FS03 | 09/18/19 11:06 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 637578-001 | S | FS03 | 09/18/19 11:06 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637578-001 | S | FS03 | 09/18/19 11:06 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637578-002 | S | FS04 | 09/18/19 11:13 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637578-002 | S | FS04 | 09/18/19 11:13 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 637578-002 | S | FS04 | 09/18/19 11:13 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637578-003 | S | SW04 | 09/18/19 11:20 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 637578-003 | S | SW04 | 09/18/19 11:20 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637578-003 | S | SW04 | 09/18/19 11:20 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637578-004 | S | SW05 | 09/18/19 11:27 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 637578-004 | S | SW05 | 09/18/19 11:27 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |
| 637578-004 | S | SW05 | 09/18/19 11:27 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637578-005 | S | SW06 | 09/18/19 11:29 | SW8021B | BTEX by EPA 8021B | 09/26/19 | 10/02/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 637578-005 | S | SW06 | 09/18/19 11:29 | SW8015MOD_NM | TPH by SW8015 Mod | 09/26/19 | 10/02/19 | JKR | GRO-DRO PHCC10C28 PH | |
| 637578-005 | S | SW06 | 09/18/19 11:29 | E300_CL | Chloride by EPA 300 | 09/26/19 | 03/16/20 | JKR | CL | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Elizabeth McClellan

Date Relinquished: 09/20/2019

Received By: Brianna Teel

Date Received: 09/23/2019 08:09

Cooler Temperature: 0.4

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 48482

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**
**Temperature Measuring device used : R8**

**Sent By:** Elizabeth McClellan **Date Sent:** 09/20/2019 02:07 PM

**Received By:** Brianna Teel **Date Received:** 09/23/2019 08:09 AM

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

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

**Contact:** _____ **Contacted by :** _____ **Date:** _____

**Checklist reviewed by:** Brianna Teel Date: 09/23/2019

Brianna Teel

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/20/2019 12:38:00 PM

**Work Order #:** 637578

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 1.4 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received on ice? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** | |
| #5 Custody Seals intact on sample bottles? | **Yes** | |
| #6*Custody Seals Signed and dated? | **Yes** | |
| #7 *Chain of Custody present? | **Yes** | |
| #8 Any missing/extra samples? | **Yes** | |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** | |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** | |
| #11 Container label(s) legible and intact? | **Yes** | |
| #12 Samples in proper container/ bottle? | **Yes** | |
| #13 Samples properly preserved? | **Yes** | |
| #14 Sample container(s) intact? | **Yes** | |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #16 All samples received within hold time? | **Yes** | |
| #17 Subcontract of sample(s)? | **Yes** | Midland |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 09/20/2019

**Checklist reviewed by:** Jessica Kramer Date: 09/23/2019

# Analytical Report 637785

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Mis Amigos 108H**

**012919201**

**01-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)

01-OCT-19

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

Reference: XENCO Report No(s): **637785**
**Mis Amigos 108H**
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) 637785. 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. 637785 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.***
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

# Sample Cross Reference 637785

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH09 | S | 09-23-19 14:37 | 2 ft | 637785-001 |
| BH09A | S | 09-23-19 14:46 | 6 ft | 637785-002 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: Mis Amigos 108H***

Project ID: *012919201*
Work Order Number(s): *637785*

Report Date: *01-OCT-19*
Date Received: *09/24/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3102377 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 637785-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, o-Xylene recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 637785-001, -002.
The Laboratory Control Sample for Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3102389 TPH by SW8015 Mod
Lab Sample ID 637785-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 637785-001, -002.
The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 637785

## LT Environmental, Inc., Arvada, CO

## Project Name: Mis Amigos 108H

**Project Id:** 012919201
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Tue Sep-24-19 08:25 am
**Report Date:** 01-OCT-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 637785-001 | | 637785-002 | | | |
| | ***Field Id:*** | BH09 | | BH09A | | | |
| | ***Depth:*** | 2- ft | | 6- ft | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | |
| | ***Sampled:*** | Sep-23-19 14:37 | | Sep-23-19 14:46 | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Sep-24-19 09:09 | | Sep-24-19 09:09 | | | |
| | ***Analyzed:*** | Sep-24-19 11:28 | | Sep-24-19 12:52 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Benzene | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| Toluene | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| Ethylbenzene | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| m,p-Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | |
| o-Xylene | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| Total Xylenes | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| Total BTEX | | <0.000994 | 0.000994 | <0.00100 | 0.00100 | | |
| **Chloride by EPA 300** | ***Extracted:*** | Sep-24-19 11:09 | | Sep-24-19 11:09 | | | |
| | ***Analyzed:*** | Sep-24-19 18:34 | | Sep-24-19 18:40 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Chloride | | <10.1 | 10.1 | 10.5 | 9.98 | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Sep-24-19 09:00 | | Sep-24-19 09:00 | | | |
| | ***Analyzed:*** | Sep-24-19 12:04 | | Sep-24-19 13:05 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <50.0 | 50.0 | | |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.0 | 50.0 | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.0 | 50.0 | | |
| Total GRO-DRO | | <50.1 | 50.1 | <50.0 | 50.0 | | |
| Total TPH | | <50.1 | 50.1 | <50.0 | 50.0 | | |





Jessica Kramer
Project Assistant

# Certificate of Analytical Results 637785

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09** | Matrix: | Soil | Date Received: | 09.24.19 08.25 |
| Lab Sample Id: | 637785-001 | Date Collected: | 09.23.19 14.37 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.24.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3102365 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 09.24.19 18.34 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.24.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3102389 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 09.24.19 12.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 09.24.19 12.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 09.24.19 12.04 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 09.24.19 12.04 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 09.24.19 12.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 113 | % | 70-135 | 09.24.19 12.04 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 09.24.19 12.04 | |

# Certificate of Analytical Results 637785

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09** | Matrix: | Soil | Date Received: | 09.24.19 08.25 |
| Lab Sample Id: | 637785-001 | Date Collected: | 09.23.19 14.37 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.24.19 09.09 | Basis: | Wet Weight |
| Seq Number: | 3102377 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |
| Toluene | 108-88-3 | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00199 | 0.00199 | mg/kg | 09.24.19 11.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |
| Total BTEX | | <0.000994 | 0.000994 | mg/kg | 09.24.19 11.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 09.24.19 11.28 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 09.24.19 11.28 | |

# Certificate of Analytical Results 637785

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09A** | Matrix: | Soil | Date Received: | 09.24.19 08.25 |
| Lab Sample Id: | 637785-002 | Date Collected: | 09.23.19 14.46 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 09.24.19 11.09 | Basis: | Wet Weight |
| Seq Number: | 3102365 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.5** | 9.98 | mg/kg | 09.24.19 18.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.24.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3102389 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 09.24.19 13.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 09.24.19 13.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 09.24.19 13.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 09.24.19 13.05 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 09.24.19 13.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 09.24.19 13.05 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 09.24.19 13.05 | |

# Certificate of Analytical Results 637785

## LT Environmental, Inc., Arvada, CO

Mis Amigos 108H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09A** | Matrix: | Soil | Date Received: | 09.24.19 08.25 |
| Lab Sample Id: | 637785-002 | Date Collected: | 09.23.19 14.46 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 09.24.19 09.09 | Basis: | Wet Weight |
| Seq Number: | 3102377 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |
| Toluene | 108-88-3 | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00200 | 0.00200 | mg/kg | 09.24.19 12.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |
| Total BTEX | | <0.00100 | 0.00100 | mg/kg | 09.24.19 12.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 09.24.19 12.52 | |
| 4-Bromofluorobenzene | 460-00-4 | 88 | % | 70-130 | 09.24.19 12.52 | |

# 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 637785

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102365 — Matrix: Solid — Date Prep: 09.24.19
MB Sample Id: 7686757-1-BLK — LCS Sample Id: 7686757-1-BKS — LCSD Sample Id: 7686757-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 258 | 103 | 259 | 104 | 90-110 | 0 | 20 | mg/kg | 09.24.19 16:24 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102365 — Matrix: Soil — Date Prep: 09.24.19
Parent Sample Id: 637782-001 — MS Sample Id: 637782-001 S — MSD Sample Id: 637782-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 11.6 | 200 | 214 | 101 | 215 | 102 | 90-110 | 0 | 20 | mg/kg | 09.24.19 17:25 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102365 — Matrix: Solid — Date Prep: 09.24.19
Parent Sample Id: 637840-010 — MS Sample Id: 637840-010 S — MSD Sample Id: 637840-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1420 | 1000 | 2710 | 129 | 2690 | 127 | 90-110 | 1 | 20 | mg/kg | 09.24.19 20:02 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102389 — Matrix: Solid — Date Prep: 09.24.19
MB Sample Id: 7686820-1-BLK — LCS Sample Id: 7686820-1-BKS — LCSD Sample Id: 7686820-1-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 | 1090 | 109 | 70-135 | 2 | 35 | mg/kg | 09.24.19 10:12 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1200 | 120 | 1210 | 121 | 70-135 | 1 | 35 | mg/kg | 09.24.19 10:12 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 107 | | 112 | | 117 | | 70-135 | % | 09.24.19 10:12 |
| o-Terphenyl | 93 | | 101 | | 115 | | 70-135 | % | 09.24.19 10:12 |

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

# QC Summary 637785

## LT Environmental, Inc.

Mis Amigos 108H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102389 — Matrix: Soil — Date Prep: 09.24.19
Parent Sample Id: 637785-001 — MS Sample Id: 637785-001 S — MSD Sample Id: 637785-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.1 | 1000 | 1220 | 122 | 1290 | 129 | 70-135 | 6 | 35 | mg/kg | 09.24.19 12:24 | |
| Diesel Range Organics (DRO) | <50.1 | 1000 | 1380 | 138 | 1480 | 148 | 70-135 | 7 | 35 | mg/kg | 09.24.19 12:24 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 127 | | 126 | | 70-135 | % | 09.24.19 12:24 |
| o-Terphenyl | 117 | | 122 | | 70-135 | % | 09.24.19 12:24 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102377 — Matrix: Solid — Date Prep: 09.24.19
MB Sample Id: 7686809-1-BLK — LCS Sample Id: 7686809-1-BKS — LCSD Sample Id: 7686809-1-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 | 0.0850 | 85 | 0.0801 | 79 | 70-130 | 6 | 35 | mg/kg | 09.24.19 10:29 | |
| Toluene | <0.00100 | 0.100 | 0.0918 | 92 | 0.102 | 101 | 70-130 | 11 | 35 | mg/kg | 09.24.19 10:29 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.104 | 104 | 0.118 | 117 | 71-129 | 13 | 35 | mg/kg | 09.24.19 10:29 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.207 | 104 | 0.236 | 117 | 70-135 | 13 | 35 | mg/kg | 09.24.19 10:29 | |
| o-Xylene | <0.00100 | 0.100 | 0.106 | 106 | 0.120 | 119 | 71-133 | 12 | 35 | mg/kg | 09.24.19 10:29 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 115 | | 108 | | 70-130 | % | 09.24.19 10:29 |
| 4-Bromofluorobenzene | 94 | | 119 | | 117 | | 70-130 | % | 09.24.19 10:29 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3102377 — Matrix: Solid — Date Prep: 09.24.19
Parent Sample Id: 637785-001 — MS Sample Id: 637785-001 S — MSD Sample Id: 637785-001 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 | 0.103 | 103 | 0.107 | 106 | 70-130 | 4 | 35 | mg/kg | 09.24.19 11:49 | |
| Toluene | <0.00100 | 0.100 | 0.124 | 124 | 0.100 | 99 | 70-130 | 21 | 35 | mg/kg | 09.24.19 11:49 | |
| Ethylbenzene | <0.00100 | 0.100 | 0.130 | 130 | 0.118 | 117 | 71-129 | 10 | 35 | mg/kg | 09.24.19 11:49 | X |
| m,p-Xylenes | <0.00201 | 0.201 | 0.256 | 127 | 0.246 | 122 | 70-135 | 4 | 35 | mg/kg | 09.24.19 11:49 | |
| o-Xylene | <0.00100 | 0.100 | 0.136 | 136 | 0.118 | 117 | 71-133 | 14 | 35 | mg/kg | 09.24.19 11:49 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 84 | | 116 | | 70-130 | % | 09.24.19 11:49 |
| 4-Bromofluorobenzene | 94 | | 126 | | 70-130 | % | 09.24.19 11:49 |

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: 637785

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 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 I ☐ Level II ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | Mis Amigos 108H | Turn Around | |
| Project Number: | 012919201 | Routine | ☑ |
| P.O. Number: | 8-15-19 | Rush: | |
| Sampler's Name: | Fatima Smith | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Temperature (°C): | 4.0°C | Thermometer ID | TNH007 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 2 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| BH09 | S | 09/23/19 | 1437 | 2' | 1 | X | X | X |
| BH09A | S | 09/23/19 | 1446 | 6' | 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



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 9/24/19 8:17 | 2 | | 9/24/19 08:25 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 09/24/2019 08:25:00 AM

**Work Order #:** 637785

**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: 09/24/2019

**Checklist reviewed by:** Jessica Kramer Date: 09/24/2019

Jessica Kramer