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

March 23, 2020

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

**RE: Remediation Work Plan and Sampling Variance Request**
**James Ranch Unit Drilling Island-1**
**Remediation Permit Numbers: 2RP-2334, 2RP-2267, 2RP-2440, 2RP-2782, 2RP-3046, 2RP-3143, 2RP-3524, 2RP-3362, 2RP-3864, 2RP-4528, 2RP-4625, and 2RP-4756**
**Incident Numbers: NRM1935433078 and NRM2002747253**
**Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Remediation Work Plan (Work Plan) and Sampling Variance Request to the New Mexico Oil Conservation Division (NMOCD) detailing site assessment, soil sampling, and proposed remedial actions to address releases at the James Ranch Unit Drilling Island-1 (JRU DI-1) (Site) in Units B, C, F, G and H, Section 21, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to address impacts to soil following 14 separate events that caused the release of produced water and/or crude oil at the Site. Results of the site assessment and soil sampling activities were utilized in developing this Work Plan.

Remediation Permit (RP) numbers 2RP-2334, 2RP-2267, 2RP-2440, 2RP-2782, 2RP-3046, 2RP-3143, 2RP-3524, 2RP-3662, 2RP-3864, 2RP-4528, 2RP-4625, and 2RP-4756 are included in the *Compliance Agreement for Remediation for Historical Releases* (Compliance Agreement) between XTO and NMOCD, effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The releases are categorized as Tier IV sites in the Compliance Agreement, meaning the releases occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, site investigations or remediation were ongoing. Incident Numbers NRM1935433078 and NRM2002747253 occurred after August 14, 2018, but the associated release extents overlap the historical releases and are included in this Work Plan to be addressed simultaneously.

This Work Plan summarizes assessment activities conducted to date and is designed to address remaining impacts to soil by installing a 20-millimeter (20-mil) impermeable liner in the subsurface, after excavating the upper four feet of soil where chloride is the only contaminant of

concern. All other contaminants of concern, specifically benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons (TPH), or areas not requiring excavation to four feet below ground surface (bgs), will be excavated to below the Site's established Closure Criteria as discussed below.

## RELEASE BACKGROUND

Figure 2 depicts the approximate point of release and associated extent the for the 12 RP Numbers and two Incidents. Below is a summary of each release at the Site.

### 2RP-2267 – JRU 21 SWD-1

On April 14, 2014, during a Saltwater Disposal (SWD) well acid-frac, misaligned valves for the water pumps caused on-site frac tanks to overflow into a plastic lined containment. The liner breached and produced water overflowed into a secondary earthen containment, which eventually overflowed to the well pad and the pasture to the north. The release consisted of approximately 1,200 barrels (bbls) of produced water, of which approximately 1,000 bbls were recovered. The release impacted approximately 700 square feet of well pad and approximately 6,400 square feet of pasture. The former operator reported the release to NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on April 24, 2014 and was assigned RP Number 2RP-2267.

### 2RP-2334 – DI-1-JRU-135H

On June 4, 2014, a vacuum truck hose discharged produced water to the well pad during drilling operations. Free liquids were recovered using a vacuum truck and saturated soil were scraped and stockpiled on the well pad. The release consisted of approximately 15 bbls of produced water, of which approximately 10 bbls were recovered. The release impacted approximately 200 square feet of well pad. The former operator reported the release to NMOCD on a Form C-141 on June 9, 2014 and was assigned RP Number 2334.

### RP-2440 – JRU-DI-1 JRU-21 SWD Pumps

On August 8, 2014, an 8-inch by 6-inch reducer failed on the suction side of the SWD horizontal pumps, causing a lined containment to overflow to the well pad and adjacent pasture. The pumps were shut down and the fittings were replaced. The release consisted of approximately 600 bbls of produced water, of which approximately 50 bbls were recovered. The release impacted approximately 900 square feet of well pad and approximately 6,400 square feet of pasture. The former operator reported the release to NMOCD on a Form C-141 on August 13, 2014 and was assigned RP Number 2440.

**2RP-2782 – JRU-DI-1 JRU-21 SWD Pumps**

On January 31, 2015, a fiberglass connection failed on the suction line to the SWD H-pumps, releasing produced water to the lined containment (110 bbls) and the well pad (10 bbls). The pumps were shut down to isolate the damaged area and repairs were made. The release consisted of approximately 120 bbls of produced water, of which approximately 112 bbls were recovered. The impacted area on the well pad overlapped the area reported in previous RP Number 2RP-2440. The former operator reported the release to NMOCD on a Form C-141 on February 2, 2015 and was assigned RP Number 2782.

**2RP-3046 – JRU-12H Jet Pump**

On June 8, 2015, vibration caused a bolt to shear off the filter pot lid on the jet pump releasing produced water to the well pad. The unit was locked-out and tagged-out until repairs could be completed. The release consisted of approximately 818 bbls of produced water, of which approximately 740 bbls were recovered using vacuum trucks. Approximately 43,350 square feet of well pad and 880 square feet of northern pasture were impacted. The release extent followed a similar flow pathway as was reported for 2RP-2440. The former operator reported the release to NMOCD on a Form C-141 on June 10, 2015 and was assigned RP Number 2RP-3046.

**2RP-3143 – JRU-12H Jet Pump**

On July 19, 2015, a bolt on the jet pump suction strainer sheared off, releasing produced water on the well pad and within the containment area. The transfer pump to the jet pump shut down on low discharge, automatically shutting down the jet pump. The release consisted of approximately 71 bbls of produced water, of which approximately 50 bbls were recovered. The release impacted approximately 1,500 square feet of well pad. The former operator reported the release to NMOCD on a Form C-141 on July 21, 2015 and was assigned RP Number 2RP-3143.

**2RP-3524 – JRU-12H**

On January 18, 2016, the discharge line from the triplex pump to the well developed a leak below the ground surface, resulting in a produced water release to the well pad. The line was isolated, soil excavated, and the line was repaired. The release consisted of approximately 22 bbls of produced water, of which approximately five bbls were recovered. Approximately 7,135 square feet of well pad was impacted. The former operator reported the release to NMOCD on a Form C-141 on January 27, 2016 and was assigned RP Number 2RP-3524.

**2RP-3662 – JRU-12H**

On April 21, 2016, corrosion of a pressurized steel line resulted in a produced water release. The line was isolated, exposed and repaired. The release consisted of approximately 24 bbls of

produced water, of which approximately 10 bbls were recovered. Approximately 900 square feet of well pad was impacted. The former operator reported the release to NMOCD on a Form C-141 on April 27, 2016 and was assigned RP Number 2RP-3662.

**2RP-3864 – JRU-12H**

On August 26, 2016, a 4-inch suction line for the jet pump ruptured and released produced water to the caliche pad. The lease operator shut down the charge pump, isolated the valve, and the line was repaired. The release consisted of approximately 65 bbls of produced water, of which approximately 50 bbls were recovered using vacuum trucks. Approximately 7,000 square feet of well pad was impacted. The former operator reported the release to NMOCD on a Form C-141 on September 6, 2016 and was assigned RP Number 2RP-3864.

**2RP-4528 – JRU DI-1 (JRU-12H)**

On December 6, 2017, a 2-inch by 3-inch switch on the triplex jet pump failed. The well was shut-in until repairs could be made. The release consisted of approximately 18 bbls of produced water, of which approximately 17 bbls of produced water were recovered. The release was reported to NMOCD on a Form C-141 on December 15, 2017 and was assigned RP Number 2RP-4528.

**2RP-4625 – JRU DI 1A #127/Well #127**

On February 3, 2018, a 10-inch Victaulic clamp disconnected from a contractor trailer releasing produced water to the well pad and north/northeast pasture. The release consisted of approximately 115 bbls of produced water onto the well pad and pasture north of the well pad, of which approximately 25 bbls of produced water were recovered. The release was reported to NMOCD on a Form C-141 on February 15, 2018 and was assigned RP Number 2RP-4625.

**2RP-4756 – JRU DI #157**

On May 4, 2018, a faulty head switch caused a temporary flowback tank to overflow at the southwestern portion of the well pad. The head switch was repaired and returned to operation. The release consisted of approximately 13 bbls of crude oil, of which approximately 10 bbls were recovered. The release was reported to NMOCD on a Form C-141 on May 17, 2018 and was assigned RP Number 2RP-4756.

**NRM1935433078– JRU DI-1 #163**

On October 18, 2019, internal corrosion of a buried 3-inch flow line resulted in a crude oil and produced water release on to the well pad. The well was shut-in, repairs were made to the buried line, and the well returned to operations. The release consisted of approximately 0.41 bbls of crude oil and 7.72 bbls of produced water, of which approximately 0.10 bbls of crude oil and 1.9

bbls of produced water were recovered. The release was reported to NMOCD on a Form C-141 on November 1, 2019 and was assigned Incident Number NRM1935433078.

**NRM2002747253 – JRU 21 SWD #1**

On November 27, 2019, an expansion joint/vibration damper on the suction side of the H-pump ruptured, causing produced water to overflow from the lined containment on to the well pad. The release consisted of approximately 579.92 bbls of produced water, of which approximately 500 bbls were recovered. Approximately 480 bbls of produced water were recovered from within the containment and approximately 20 bbls were recovered from the well pad. The release was reported to NMOCD on a Form C-141 on December 11, 2019 and was assigned Incident Number NRM2002747253.

## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 NMAC. Depth to groundwater at the Site is estimated to be between 51 feet bgs and 100 feet bgs based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is New Mexico Office of State Engineer (NMOSE) well C-01916, located approximately 4,564 feet southeast of the Site. The groundwater well has a depth to groundwater of 262 feet bgs and a total depth of 1,316 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an intermittent wash located approximately 1,230 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located within a high-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)
- BTEX: 50 mg/kg
- TPH: 100 mg/kg;
- Chloride: 600 mg/kg

## SITE ASSESSMENT AND DELINEATION SOIL SAMPLING ACTIVITIES

The 14 releases generally affected five areas at the Site and are described as the Northwest Area, Northeast Area, East Area, Southwest Area, and West Area. Figure 2 depicts the five main release areas. Due to duplicative sample nomenclature, applicable RP/Incident Number assessment and sampling results are provided under each area and summarized on Table 1.

Soil samples from initial assessment and delineation activities were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach© chloride QuanTab© test strips, respectively. Field screening results and observations for potholes and boreholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. Photographic documentation was conducted during the Site visits. Photographic logs are included in Attachment 3.

Preliminary and delineation 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 and/or Carlsbad, New Mexico for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Laboratory analytical reports are included in Attachment 4.

Below is a summary of activities related to each release area and associated RP Number and/or Incident Number.

### Northwest Area

2RP-4625

On February 5, 2018, LTE personnel inspected the Site to evaluate the release associated with RP Number 2RP-4625. In general, the release appeared to have pooled on pad and overflowed into the pasture by way of erosional channels from the pad northwards. The majority of the produced water stayed within the ruts to a terminus at approximately 375 feet north. Twelve preliminary soil samples (SS1 through SS12) were collected at a depth of approximately 0.5-feet bgs from each location within and around the release extent (Figure 3). Chloride concentrations exceeding the Closure Criteria were reported in soil collected from samples SS02 and SS12. The remaining 10 locations were below the Closure Criteria for all contaminants of concern. Based on these findings, additional assessment and delineation activities appeared warranted.

On April 6, 2019, LTE conducted additional site assessment activities. Thirteen surface soil samples (SS01 through SS13) were collected at a depth of approximately 0.5-feet bgs from each

location within and around the release extent. Chloride concentrations exceeding the Closure Criteria were reported in 10 of the soil samples collected (SS01, SS03 through SS09, SS11, and SS13). The remaining contaminants of concern were below the Closure Criteria.

On July 15 and July 16, 2019, LTE conducted subsurface delineation activities. A total of 46 soil samples from 20 potholes (PH01 through PH20) were advanced via track hoe within and around the release area to assess the lateral and vertical extents of soil impacts associated with the historical release (Figure 3). Two to five soil samples were collected from each pothole, with depths ranging from approximately one foot bgs to five feet bgs. Chloride concentrations exceeding the Closure Criteria were reported in three of the 44 subsurface soil samples, with the highest concentrations detected immediately to the north of the point of release in pothole samples PH09, PH11, and PH16. Deeper samples from each of these exceedances were below the Closure Criteria.

Laboratory analytical results for the preliminary and delineation soil samples indicated benzene, BTEX, and TPH concentrations were compliant with applicable Closure Criteria in all initial assessment and delineation soil samples. Chloride exceeds Closure Criteria in the areas described above. In general, the northwest pasture consists of sandy soil at the ground surface that is underlain by sandy clay, which limits the vertical migration of impacts due to the low effective porosity and its negatively-charged nature, attracting chloride and minimizing leaching. Based on the initial and delineation soil sampling activities, the lateral and vertical extents of the chloride impact to soil have been defined to depths ranging from four to five feet bgs. The vertical extent is five feet bgs near PH09.

## Northeast Area

2RP-2267

On December 20, 2017, LTE personnel inspected the Site to evaluate the release area associated with RP Number 2RP-2267. In general, the release appeared to have pooled on pad and overflowed into the northern pasture by way of one main erosional channel from the pad. The majority of the produced water stayed within the channel and pooled at the terminus located approximately 775 feet to the north. Six preliminary soil samples (SS01 through SS06) were collected within and around the release area to assess the lateral extent of potentially impacted soil. A soil sample from each location was collected at a depth of approximately 0.5 feet bgs. The soil sample locations, depicted on Figure 4, were selected based on information provided on the initial Form C-141 and field observations. Soil sample SS04 reported a chloride concentration exceeding the Closure Criteria. The remaining five locations were below the Closure Criteria for all contaminants of concern. Based on these findings, additional delineation of the release extent appeared warranted.

From February 26 through February 28, 2019, LTE conducted subsurface delineation activities. A total of 38 soil samples from 19 potholes (PH01 through PH19) were advanced via track hoe within and around the release area to assess soil impacts associated with the historical release (Figure 4). Two soil samples were collected from each pothole, with depths ranging from approximately four feet bgs to 16 feet bgs. Chloride concentrations exceeding the Closure Criteria were reported in 11 of the 38 soil samples, with the highest concentrations detected immediately to the south and west of the release point in pothole samples PH01, PH04, PH05, PH06, PH08, and PH09. Pothole PH18, located approximately 750 feet north of the Site within the pasture, contained chloride at a concentration exceeding the Closure Criteria.

On December 9, 2019 and January 7, 2020, LTE conducted additional borehole sampling to further delineate the lateral extent of the release. A total of 19 soil samples were collected from 12 boreholes, which were advanced to a depth of approximately four feet bgs utilizing a hand auger. Chloride concentrations exceeding the Closure Criteria were reported in soil from boreholes BH07 and BH09. Borehole BH07 is located in the vicinity of pothole PH05, northwest of the point of release. Borehole BH09 is located approximately 600 feet north of the Site within the pasture.

Chloride exceedances in soil samples from pothole PH09 were reported in the upper sandy soil and decreased once the lithology transitioned to a clayey sand, and field screening results dropped dramatically.

Laboratory analytical results for the preliminary and delineation soil samples indicated benzene, BTEX, and TPH concentrations were compliant with applicable Closure Criteria in all initial assessment and delineation soil samples. The vertical extent of the chloride exceeding the Closure Criteria has not been fully defined, as exhibited in pothole PH01 at approximately 16 feet bgs. Additional lateral delineation is necessary south of the release, where the presence of the pump jack limited soil boring placement. In general, lithology of the Northeast Area is comparable to the Northwest Area, consisting of sandy soil at the ground surface that is underlain by sandy clay, which limits the vertical migration of impacts due to the low effective porosity and its negative-charged nature, attracting chloride and minimizing leaching.

## East Area

2RP-2334

On February 19, 2019, LTE conducted site assessment activities. Due to the age of the release, LTE conducted these activities based on a review of the Form C-141. The exact release point was not identified on the Form C-141; therefore, a total of 10 soil samples from five potholes (PH01 through PH05) were advanced via track hoe within and around the presumed release area to assess for potential soil impacts associated with the historical release (Figure 5). Two soil samples were collected from each pothole, with depths ranging from approximately one foot bgs to four

feet bgs. Benzene, BTEX, and TPH concentrations were compliant with applicable Closure Criteria in all soil samples. Chloride concentrations exceeding the Closure Criteria were reported in soil from pothole samples PH02 and PH03. The maximum depth of chloride Closure Criteria exceedances was reported in pothole PH02 at a depth of approximately 4 feet bgs. The well pad is constructed of caliche soil and underlain by sandy clay within the East Area.

## West Area

The West Area is comprised of Incident Number NRM2002747253 and RP Number 2RP-2440, whose release point was in the Southwest Area, but the release extended into the West Area (Figure 6).

2RP-2440

From July 17 to July 18, 2019, LTE personnel inspected the Site to evaluate the release extent associated with RP Number 2RP-2440, which resulted from a release at the SWD H-pump. Due to the age of the release, LTE conducted these activities based on a review of the Form C-141. The release appeared to have flowed from the well pad to the pasture, through a corrugated drain underneath the lease road, and continued further north within erosional channels and settled out in low topographic spots. Delineation soil samples were collected within and around the presumed release area on the well pad and into the pasture to assess the vertical and lateral extent of potentially impacted soil. The soil sample locations, depicted on Figure 6, were selected based on information provided on the initial Form C-141 and field observations.

A total of 28 soil samples were collected from 14 potholes (PH01 through PH14). Chloride concentrations exceeding the Closure Criteria were reported in soil samples from pothole PH09 at a depth of approximately four feet bgs. Laboratory analytical results for the remaining delineation soil samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria. Pothole PH09 is located approximately 520 feet north of the pad, which based on field observations, is a discontinuous topographic low spot. In general, lithology is consistent with the lithology in other pasture areas, consisting of sandy soil underlain by sandy clay.

NRM2002747253

On December 9, 2019, LTE personnel inspected the Site to evaluate the release extent associated with Incident Number NRM2002747253, which resulted from a failure of the expansion joint/vibration damper on the suction side of the H-pump. The release flowed from the well pad to an erosional channel that connected to a corrugated metal drain located underneath the northern lease road. Fourteen preliminary soil samples (SS01 through SS14) were collected within the release extent at a depth of approximately 0.5 feet bgs. Twelve of the 14 samples collected reported chloride concentrations exceeding the Closure Criteria. Laboratory analytical

results for the remaining soil samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria.

The release extent from Incident Number NRM2002747253 overlapped other release extents within the West Area and Southwest Area and, as a result, additional delineation activities were not conducted for this Incident Number.

## Southwest Area

The Southwest Area consists RP Numbers 2RP-2782, 2RP-3046, 2RP-3143, 2RP-3524, 2RP-3662, 2RP-3864, 2RP-4528, and 2RP-4756, and Incident Number NRM2002747253 (Figure 7). The release point for RP Number 2RP- 2440 was located within the Southwest Area; however, much of the release extended to the adjoining pasture. Therefore, remediation of RP Number 2RP-2440 will be addressed as part of the West Area. Based on the age of RP Number 2RP-2782, the location of the release extent is unknown and presumed to have comingled with the other release extents in this area. As a result, RP Number 2RP-3782 was not assessed separately. A summary of the preliminary and delineation soil sampling from applicable release permits is provided below.

2RP-3524

On December 13, 2017, LTE personnel inspected the Site to evaluate the release extent associated with RP Number 2RP-3524, which resulted from a leak from a belowground line to the caliche pad. The line was excavated for repairs and the release extent was generally limited to the well pad. Five preliminary soil samples (SS-1 through SS-5) were collected within the release extent on the well pad at a depth of 0.5 feet bgs. Four of the five samples collected reported chloride concentrations exceeding the Closure Criteria with the highest concentration at sample location SS-3. In addition, TPH exceeded the Closure Criteria in soil from preliminary soil samples SS-2 and SS-4. Laboratory analytical results for the remaining soil samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria. Based on these findings, delineation sampling appeared warranted.

On February 8, 11, 12, 13, and 15, 2019, LTE collected 50 soil samples from 25 potholes (PH1 through PH22, and PH27 through PH29) to conduct site delineation activities. The soil sample locations, depicted on Figure 7, were selected based on information provided on the initial Form C-141, field observations and preliminary assessment sampling. The potholes were advanced via track hoe within and around the release area to delineate soil impacts associated with the historical release. Fourteen of the soil samples collected reported chloride concentrations exceeding the Closure Criteria. The maximum depth of chloride exceedance was reported in soil from pothole PH5 at a depth of approximately five feet bgs. In general, chloride concentrations decreased with depth. TPH exceeded the Closure Criteria in the soil samples collected from pothole PH1 at a depth of approximately 1-foot bgs. Laboratory analytical results for the

remaining pothole samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria.

2RP-3662

On December 20, 2017, LTE personnel inspected the Site to evaluate the release extent associated with RP Number 2RP-3662, resulting from corrosion of a pressurized steel line. The soil sample locations, depicted on Figure 7, were selected based on information provided on the initial Form C-141 and field observations. Nine preliminary soil samples (SS-1 through SS-9) were collected within the release extent on the well pad at a depth of approximately 0.5 feet bgs. Laboratory analytical results for the nine samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria. The release extent from 2RP-3663 overlapped other release extents within the Southwest Area, as a result, additional delineation activities were not conducted for RP Number 2RP-3662.

2RP-4528

On December 13, 2017, LTE personnel inspected the Site to evaluate the release extent associated with RP Number 2RP-4528, which resulted from a release from the switch on the triplex jet pump. Five preliminary soil samples (SS-1 through SS-5) were collected at a depth of approximately 0.5 feet bgs and within the release extent on the well pad. All five of the samples reported chloride concentrations exceeding the Closure Criteria. Laboratory analytical results for the five soil samples indicated benzene, BTEX, and TPH concentrations were compliant with applicable Closure Criteria.

The location of preliminary soil samples SS-1 through SS-5 were located in close proximity of other delineation soil samples associated with other releases in the southwest area. As a result, no addition vertical or lateral delineation soil samples were collected for RP Number 2RP-4528.

NRM1935433078

On October 23, 2019, LTE personnel inspected the Site to evaluate the release extent associated with Incident Number NRM1935433078, located immediately to the southwest of the well pad. The release resulted from a corrosion leak from a belowground flow line. The flowline was exposed for repairs, which was in the immediate vicinity of several aboveground flowlines on all sides, limiting assessment efforts. A total of nine preliminary soil samples (SS01 through SS09) were collected within and adjacent to the release extent at a depth of approximately 0.5 feet bgs. Five of the samples (SS02 through SS06) reported chloride concentrations exceeding the Closure Criteria. TPH exceeded the Closure Criteria in soil from preliminary samples SS03 through SS06. In addition, total BTEX exceeded the Closure Criteria in samples collected from SS04 and SS06. Laboratory analytical results for the remaining soil samples indicated benzene, BTEX, TPH,

and chloride concentrations were compliant with applicable Closure Criteria. Based on these findings, it was determined that additional assessment and delineation was required.

On January 23 and January 24, 2020, LTE collected 21 soil samples from seven boreholes (BH01 through BH07) to conduct subsurface delineation activities, utilizing a hand auger. The soil sample locations, depicted on Figure 7, were selected based on field screening and observations. Six of the soil samples collected reported chloride concentrations exceeding the Closure Criteria. The maximum depth of chloride exceedance was reported in soil from borehole BH01 at a depth of approximately 7.5 feet bgs. TPH exceeded the Closure Criteria in the soil samples collected from boreholes BH01, BH02, and BH03 at a maximum depth of approximately 7.5 feet bgs. In addition, BTEX exceeded the Closure Criteria in sample collected from BH01 at a depth 0.5 feet bgs. Chloride, total BTEX, and benzene concentrations appear to diminish with depth. Laboratory analytical results for the remaining borehole samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with applicable Closure Criteria.

## Summary

Based on field observations, field screenings, and laboratory analytical results collected during the site assessment and numerous soil sampling events, chloride concentrations exceed Closure Criteria for all releases in the pasture (Northwest Area, Northeast Area, West Area). The chloride impacts in the pasture are delineated in the Northwest Area to approximately four feet to five feet bgs. Elevated chloride concentrations are less than four feet deep in the West Area, and up to 16 feet deep adjacent to the release point in the Northeast Area. The chloride impact appears to be present in the sandy topsoil, with a less porous clay underneath restricting extensive vertical migration except at the release point in the Northeast Area.

Impacts to soil on pad also consist of elevated chloride concentrations with less extensive hydrocarbon impacts. The East Area contains chloride impacts to at least four feet in depth. The Southwest Area contains elevated chloride, TPH, BTEX, and benzene concentrations to at least 7.5 feet bgs. On pad, the lithology is comprised of caliche with the underlying sandy clay observed in the pasture and present at approximately two feet to four feet bgs.

## PROPOSED REMEDIATION WORK PLAN

LTE proposes to remediate residual chloride, TPH, BTEX, and benzene impacts in a single effort, combining final delineation, excavation activities, and liner installation. Excavation activities will be completed with a track hoe expect for those areas containing above- or below-ground flowlines, buried utilities lines, pump jacks, and/or processing equipment. A hydro-excavation truck will be deployed to daylight underground flowlines and utilities so that excavations can be safely completed to within two feet of each line. All excavation work will be completed to within two feet of surface flowlines, utilities, pump jacks, and processing equipment.

Due to the depths of chloride impacts in the Northeast and Southwest Areas, the installation of a 20-mil poly liner appears to be a remedial alternative to full excavation that will be equally protective of human health and the environment in excavations where chloride is the only contaminant of concern and impacts exceed four feet bgs. As such, XTO requests to install a 20-mil impermeable liner over the residual impacted soil to mitigate further impacts into the subsurface. The liner will be installed at four feet bgs and backfilled with soil or caliche that contain no waste, depending on the location. Below is a summary table of excavation parameters for each major area. Figure 8 depicts the approximate excavation locations and liners for applicable areas.

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## SUMMARY OF EXCAVATION PARAMETERS

| Parameter | Major Area | | | | |
|---|---|---|---|---|---|
| | Northwest | Northeast | East | Southwest | West |
| Contaminants of Concern | Chloride | Chloride | Chloride | Chloride and TPH | Chloride |
| Impacted Area (sq. ft) | 22,177 | 34,108 | 2,425 | 61,463 | 32,879 |
| Impacted Volume (cu yds) | 3,285 | 12,632 | 359 | 13,307 | 3,653 |
| Liner Install (Y/N) | No | Yes | No | Yes | No |
| Estimated Excavation Area for Liner (sq. ft) | NA | 17,565 | NA | 59,885 | NA |
| Estimated Impacted Soil Volume Removed for Liner (cu yds) | NA | 2,602 | NA | 8,872 | NA |
| Estimated Impacted Soil Volume Left In-Place Under Liner (cu yds) | NA | 8,457 | NA | 4,436 | NA |
| Estimated Excavation Area for Non-Liner (sq. ft) | 22,177 | 16,543 | 2,425 | 1,578 | 32,879 |
| Estimated Impacted Soil Volume Removed for Non-Liner (cu yds) | 3,285 | 2,450 | 359 | 467 | 3,653 |
| Lateral Delineation Required (Y/N) | Y | N | N | N | Y |
| Vertical Delineation Required (Y/N) | Y | N | N | N | Y |

**Notes:**
sq. ft – square feet
cu yds – cubic yards
NA – Not applicable

## DELINEATION

While all release areas are generally defined, there are limited portions of the areas that will require additional delineation. Additional delineation will be completed concurrently with excavation activities. Excavations will generally be extended outward to address lateral impacts not fully delineated to-date.

Delineation of areas where the 20-mil poly liner are to be installed and chloride has not been fully delineated will be completed prior to the installation of the liner. Delineation will be completed through the advancement of boreholes using a drill rig or potholes using a track hoe. The proposed vertical delineation sample locations are provided on Figure 8. Samples will be collected for laboratory analysis at the highest field screening reading and at the bottom of the borehole determined by field screening results indicating the soil sample will be compliant with all applicable Closure Criteria.

In areas where above- or below-ground flowlines, buried utilities lines, pump jacks, and/or processing equipment are present on the active well pad, excavations will be completed to within two feet of the impediment. Additional delineation will be conducted in these areas if deferment of any impacted soil near these structures is required.

Soil samples from the delineation activities will be field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated (PID) and Hach© chloride QuanTab© test strips, respectively. Field screening results and observations for potholes and boreholes will be logged on lithologic/soil sampling logs and photographic documentation will be conducted.

The soil samples will be placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples will be shipped at 4 °C under strict COC procedures to Xenco in Carlsbad, New Mexico, for analysis.

Delineation soil samples for the Southwest Area will be analyzed for BTEX following EPA Method 8021B; TPH-GRO, TPHDRO, and TPH-ORO following EPA Method 8015M/D; and chloride following EPA Method 300.0. Delineation soil samples for the Northwest, Northeast, East, and West Areas will be analyzed for chloride following EPA Method 300.0.

## CONFIRMATION SAMPLING VARIANCE REQUEST

XTO is requesting a variance of the 200-square foot confirmation sampling requirement for the areas to be excavated, which would require an estimated 378 floor samples within the estimated excavation extents with no liner. These numbers do not include sidewalls. Due to the aerial extents the affected areas, LTE proposes increasing the confirmation sampling size to a 1,000-square foot area for floor samples and a 500-square foot area for sidewall samples, utilizing a 5-point composite sample to represent each excavation confirmation sample. An estimated 76

samples would be collected from the excavation floor with no liner to address the excavation extents. A minimum of one floor sample and one sidewall sample will be collected from each discrete impacted area within the five general areas. Field screening, sample selection and analytical parameters will be conducted as specified above. Figure 9 illustrated the proposed confirmation sampling grid.

## SCHEDULE

Due to ongoing drilling activities at the Site, remediation of impacted soil is limited by XTO safety policies and access during oil and gas drilling and completion operations. XTO will complete excavation and liner installation activities when drilling and completion operations are inactive and/or at the conclusion of all drilling and completion activities, whichever situation is more protective of worker safety. Implementation and completion of this Work Plan will not extend beyond June 1, 2021, unless extenuating circumstances arise and are negotiated with NMOCD.

Updated NMOCD Form C-141 for each is included in Attachment 1 for all remediation permits and Incident Numbers. Photographic logs of the Site are included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 946-1093.

Sincerely,

LT ENVIRONMENTAL, INC.

Kevin M. Axe, P.G.
Senior Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Robert Hamlet, NMOCD
Mike Bratcher, NMOCD
Bureau of Land Management

Appendices:

Figure 1 Site Location Map
Figure 2 Release Areas
Figure 3 Northwest Soil Sample Locations
Figure 4 Northeast Soil Sample Locations

Figure 5 East Area Soil Sample Locations
Figure 6 West Area Soil Sample Locations
Figure 7 Southwest Area Soil Sample Locations
Figure 8 Proposed Excavation and Liner Extents
Figure 9 Proposed Confirmation Sample Grid
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-2334, 2RP-2267, 2RP-2440, 2RP-2782, 2RP-3046, 2RP-3143, 2RP-3524, 2RP-3662, 2RP-3864, 2RP-4528, 2RP-4625, and 2RP-4756) and Incident Numbers: NRM1935433078 and NRM2002747253
Attachment 2 Lithologic/Soil Sample Logs
Attachment 3 Photographic Logs
Attachment 4 Laboratory Analytical Reports

FIGURES

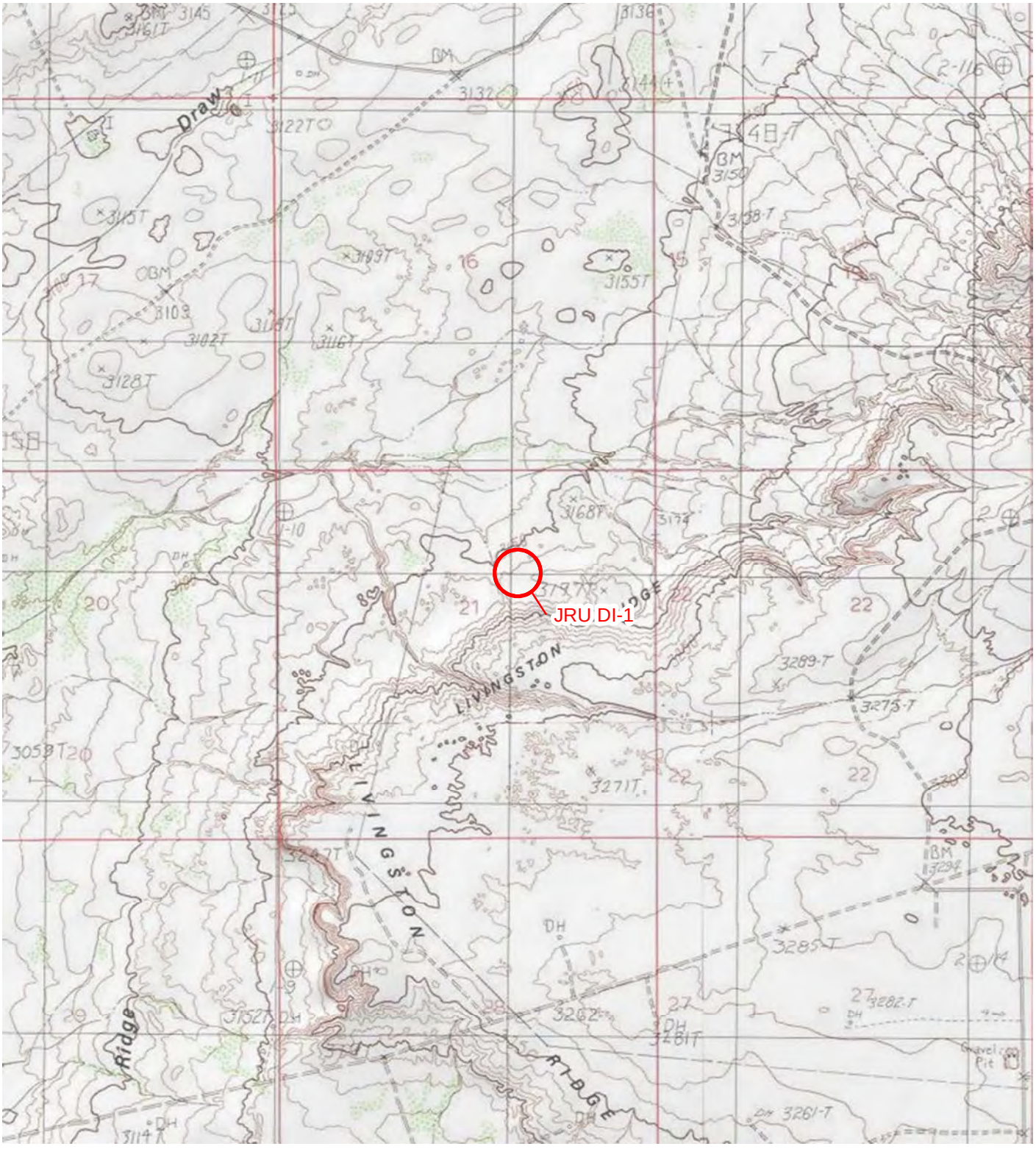



IMAGE COURTESY OF ESRI/USGS

**LEGEND**

SITE LOCATION

0 2,000 4,000
Feet

N

NOTE: REMEDIATION PERMIT NUMBERS
2RP-2267, 2RP-2334, 2RP-2440, 2RP-2782,
2RP-3046, 2RP-3143, 2RP-3524, 2RP-3662,
2RP-3864, 2RP-4528, 2RP-4625, & 2RP-4756
INCIDENT NUMBERS NRM2002747253
& NRM1935433078




FIGURE 1
SITE LOCATION MAP
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\MXD\012918007_JRU 12H\012918007_FIG01_SL_2020.mxd

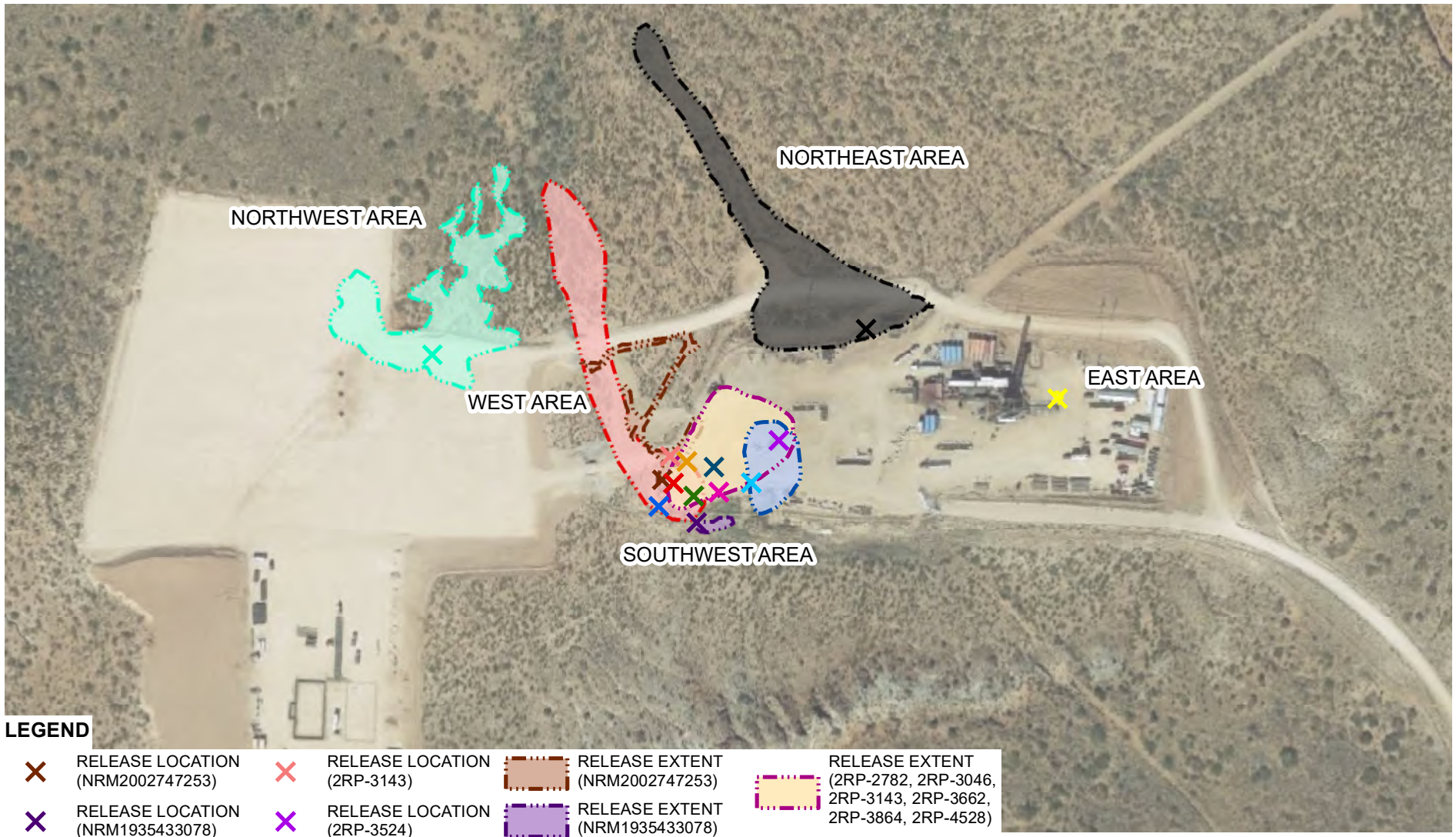



FIGURE 2
RELEASE AREAS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
SAMPLE DATE
NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
B = 10 mg/kg
BTEX = 50 mg/kg
TPH = 100 mg/kg
Cl = 600 mg/kg
ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
<: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT

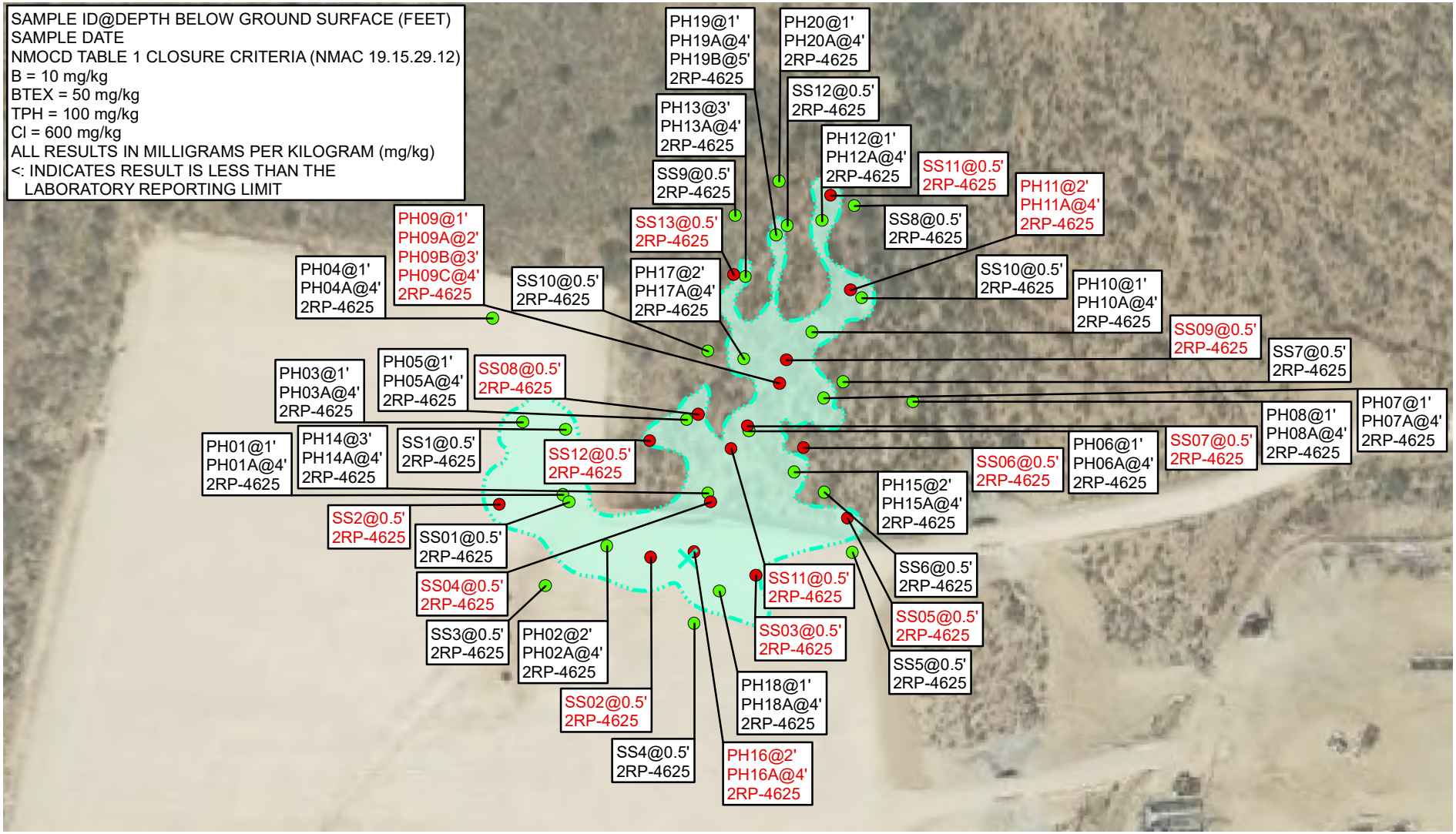



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- RELEASE LOCATION (2RP-4625)
- SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT (2RP-4625)

NOTE: REMEDIATION PERMIT NUMBER 2RP-4625

0 150 300
Feet

N

FIGURE 3
NORTHWEST SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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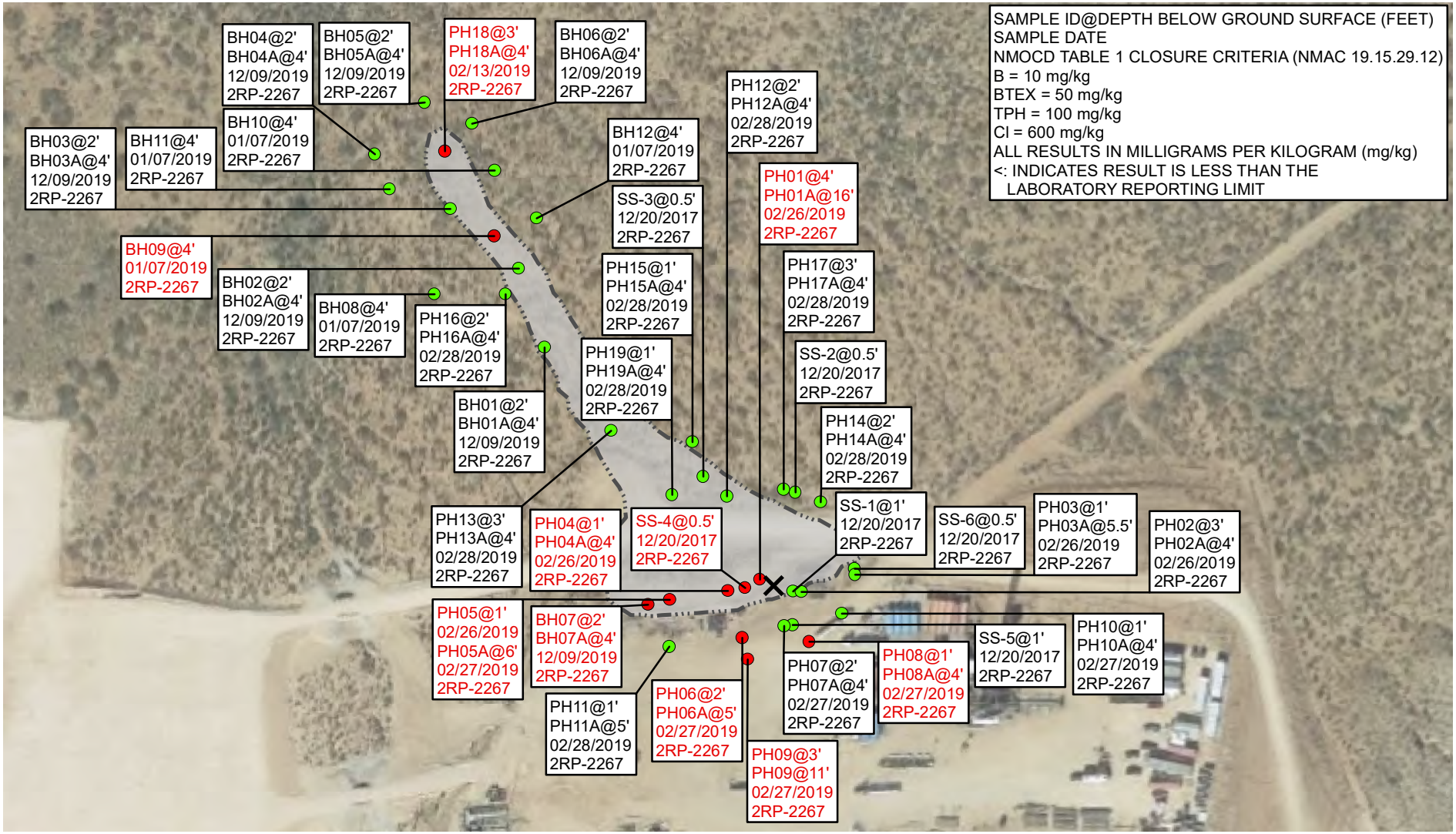



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT (2RP-2267)

NOTE: REMEDIATION PERMIT NUMBER 2RP-2267

0 200 400
Feet

N

FIGURE 4
NORTHEAST SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
SAMPLE DATE
NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
B = 10 mg/kg
BTEX = 50 mg/kg
TPH = 100 mg/kg
Cl = 600 mg/kg
ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
<: INDICATES RESULT IS LESS THAN THE
LABORATORY REPORTING LIMIT




IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- PRESUMED RELEASE LOCATION (2RP-2334) (BASED ON C-141)
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

0 50 100
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-2334

FIGURE 5
EAST SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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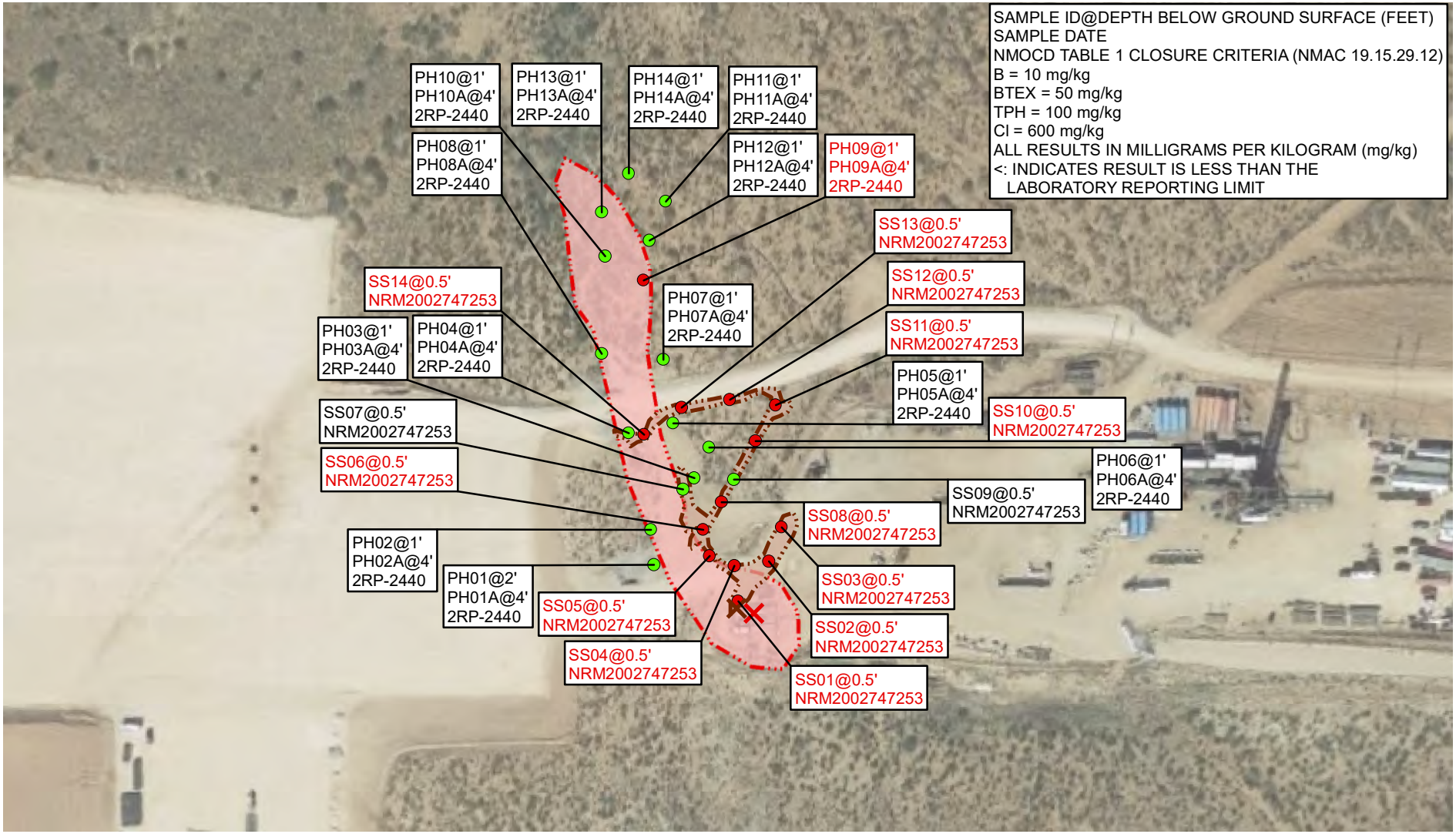



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- RELEASE LOCATION (2RP-2440)
- RELEASE LOCATION (NRM2002747253)
- SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT (NRM2002747253)
- RELEASE EXTENT (2RP-2440)

NOTE: REMEDIATION PERMIT NUMBER 2RP-2440
INCIDENT NUMBER NRM2002747253

0 200 400
Feet

N

FIGURE 6
WEST SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\MXD\012917050_JRU_DI1\012917050_FIG06_WEST_EXCAVATION_2020_1.mxd

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
SAMPLE DATE
NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
B = 10 mg/kg
BTEX = 50 mg/kg
TPH = 100 mg/kg
Cl = 600 mg/kg
ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
<: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT

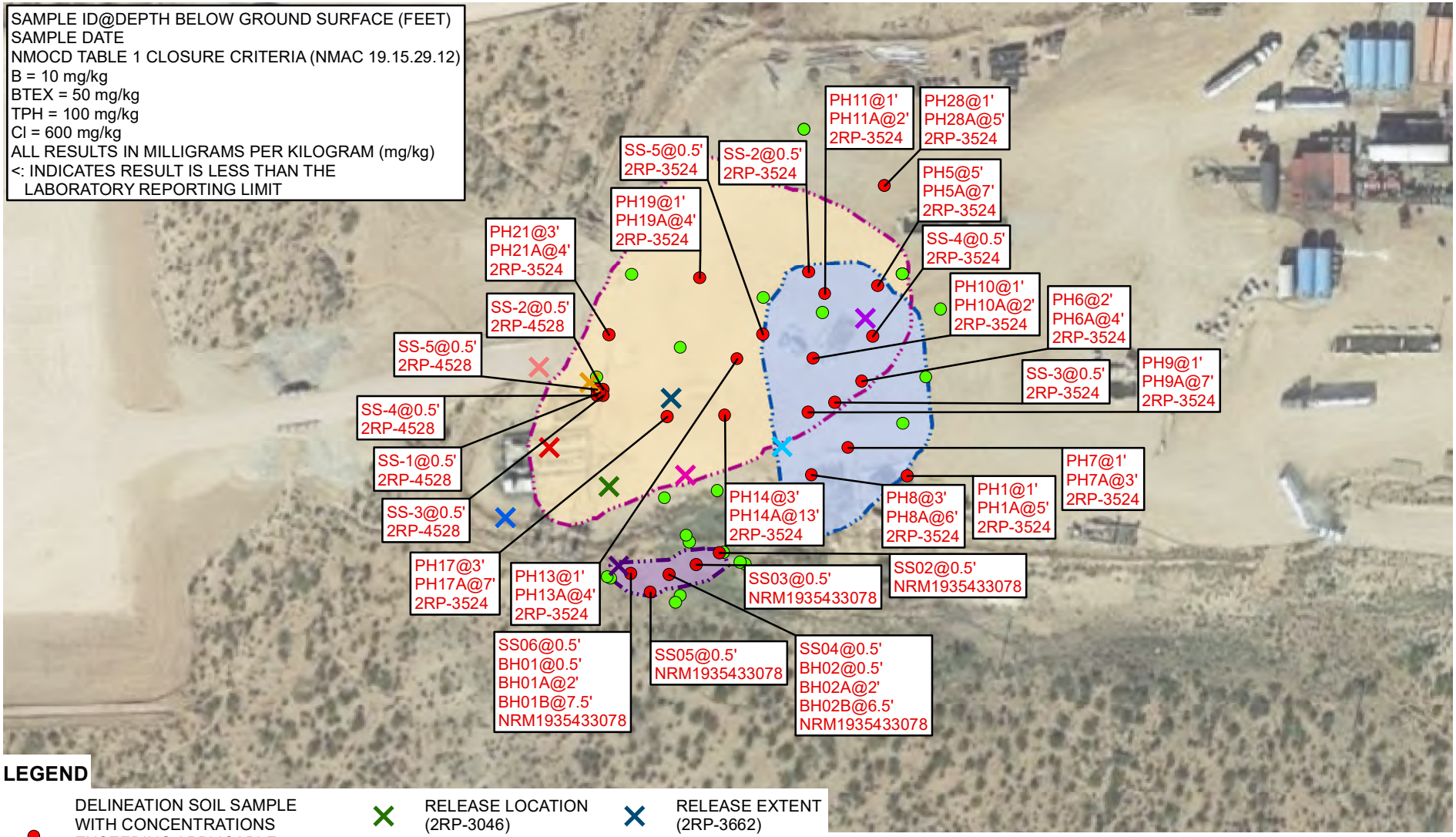



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE LOCATION (NRM1935433078)
- RELEASE LOCATION (2RP-2440)
- RELEASE LOCATION (2RP-2782)
- RELEASE LOCATION (2RP-3046)
- RELEASE LOCATION (2RP-3143)
- RELEASE LOCATION (2RP-3524)
- RELEASE LOCATION (2RP-3864)
- RELEASE LOCATION (2RP-4528)
- RELEASE LOCATION (2RP-4756)
- RELEASE EXTENT (2RP-3662)
- RELEASE EXTENT (NRM1935433078)
- RELEASE EXTENT (2RP-3046, 2RP-3143, 2RP-3864, 2RP-4528)
- RELEASE EXTENT (2RP-3524, 2RP-4756)

0 100 200
Feet

N

FIGURE 7
SOUTHWESTERN SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
SAMPLE DATE
NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
B = 10 mg/kg
BTEX = 50 mg/kg
TPH = 100 mg/kg
Cl = 600 mg/kg
ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
<: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT

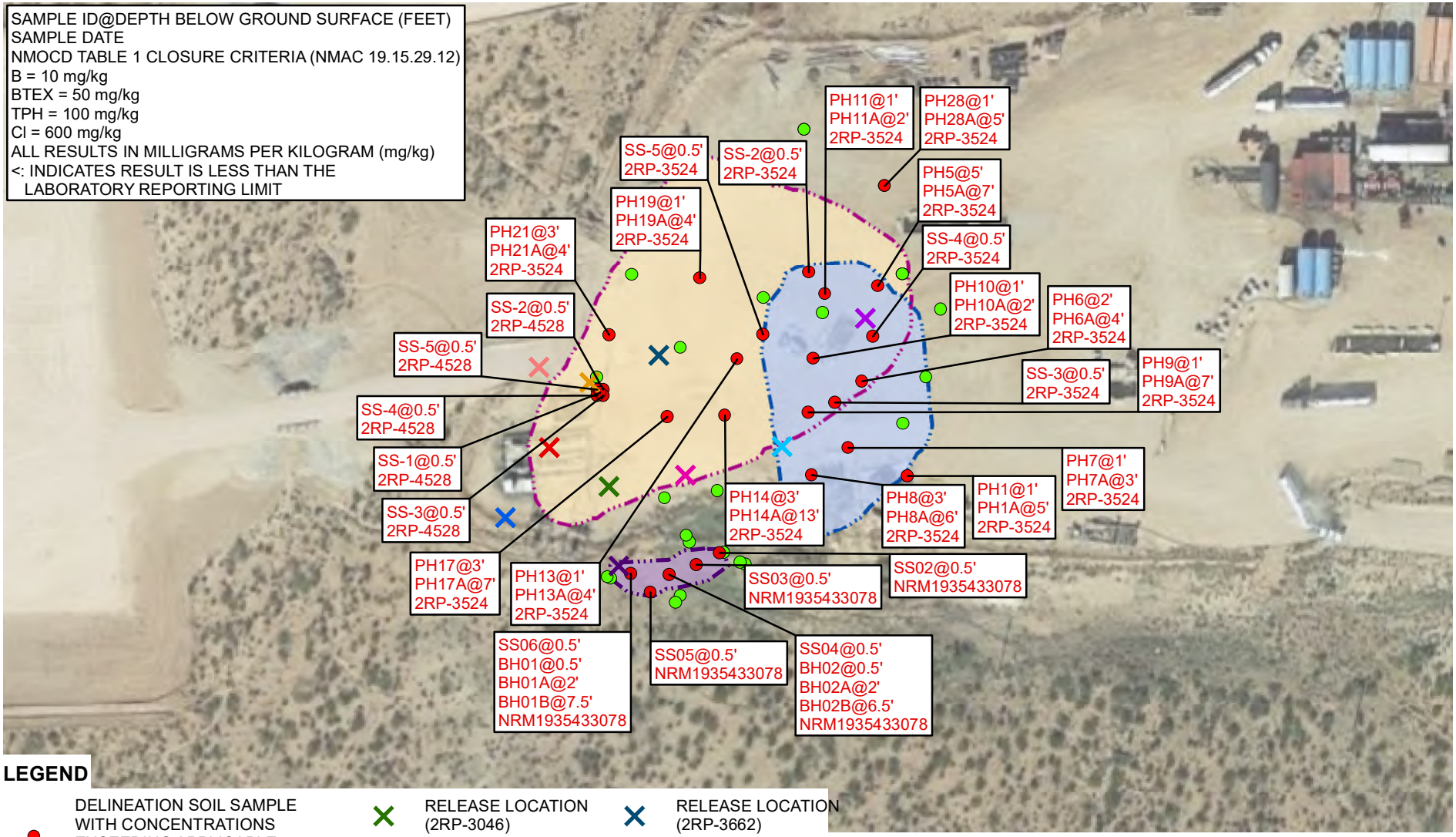



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

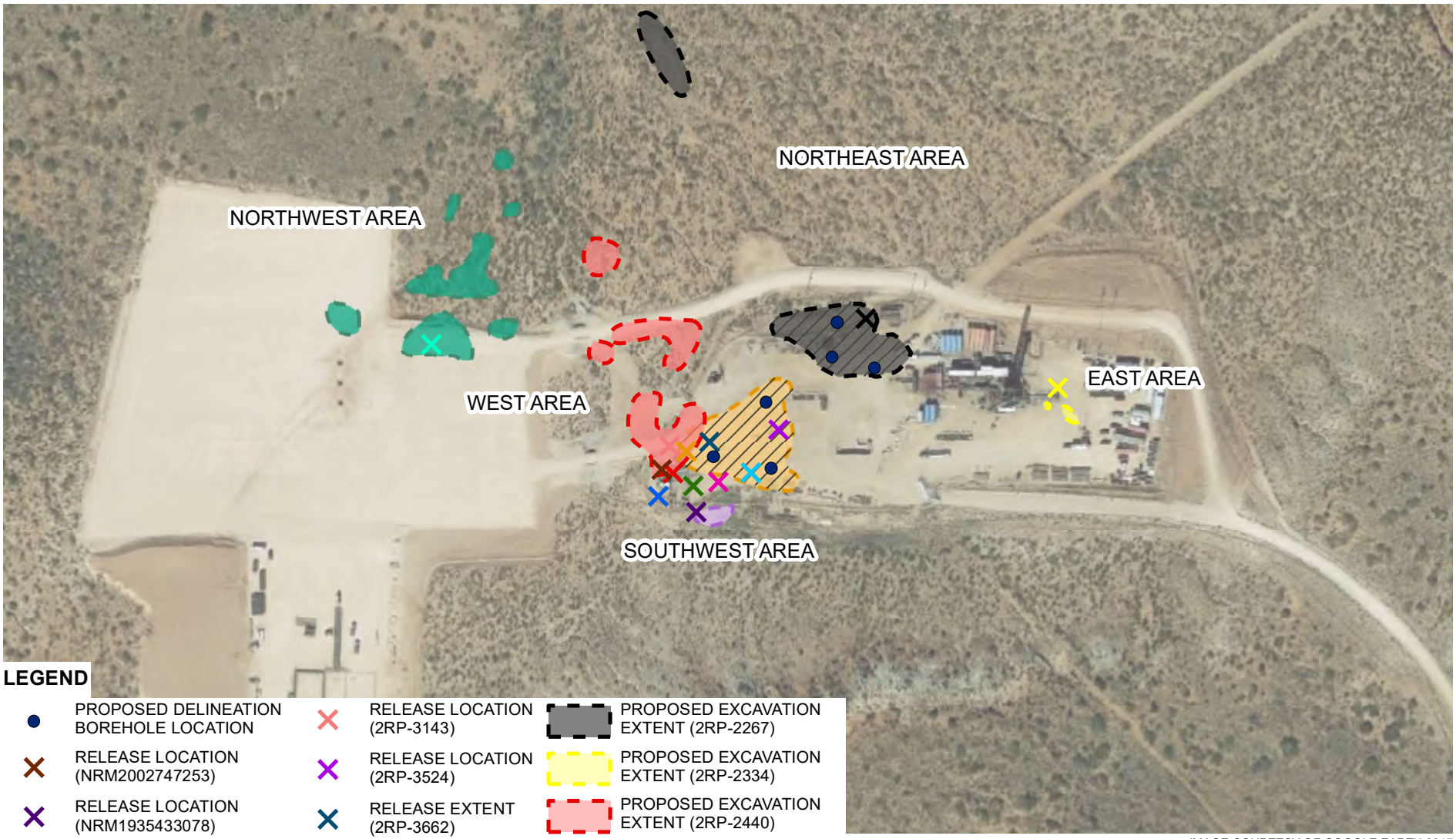
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE LOCATION (NRM1935433078)
- RELEASE LOCATION (2RP-2440)
- RELEASE LOCATION (2RP-2782)
- RELEASE LOCATION (2RP-3046)
- RELEASE LOCATION (2RP-3143)
- RELEASE LOCATION (2RP-3524)
- RELEASE LOCATION (2RP-3864)
- RELEASE LOCATION (2RP-4528)
- RELEASE LOCATION (2RP-4756)
- RELEASE LOCATION (2RP-3662)
- RELEASE EXTENT (NRM1935433078)
- RELEASE EXTENT (2RP-3046, 2RP-3143, 2RP-3864, 2RP-4528)
- RELEASE EXTENT (2RP-3524, 2RP-4756)

0 100 200
Feet

N

FIGURE 7
SOUTHWESTERN SOIL SAMPLE LOCATIONS
JRU DI-1
UNITS B, C, F, G & H SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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**LEGEND**

- PROPOSED DELINEATION BOREHOLE LOCATION
- RELEASE LOCATION (NRM2002747253)
- RELEASE LOCATION (NRM1935433078)
- RELEASE LOCATION (2RP-2267)
- RELEASE LOCATION (2RP-2334)
- RELEASE LOCATION (2RP-2440)
- RELEASE LOCATION (2RP-2782)
- RELEASE LOCATION (2RP-3046)
- RELEASE LOCATION (2RP-3143)
- RELEASE LOCATION (2RP-3524)
- RELEASE EXTENT (2RP-3662)
- RELEASE LOCATION (2RP-3864)
- RELEASE LOCATION (2RP-4528)
- RELEASE LOCATION (2RP-4625)
- RELEASE LOCATION (2RP-4756)
- PROPOSED EXCAVATION EXTENT (2RP-2267)
- PROPOSED EXCAVATION EXTENT (2RP-2334)
- PROPOSED EXCAVATION EXTENT (2RP-2440)
- PROPOSED EXCAVATION EXTENT (2RP-3046, 2RP-3143, 2RP-3864, 2RP-4528)
- PROPOSED EXCAVATION EXTENT (NRM1935433078)
- PROPOSED EXCAVATION EXTENT (2RP-4625)
- PROPOSED 20-MIL POLY LINER INSTALLATION

IMAGE COURTESY OF GOOGLE EARTH 2017

0 300 600
Feet

N

FIGURE 8
PROPOSED EXCAVATION AND LINER AREAS
JRU DI-1
UNITS B, C, F, & G SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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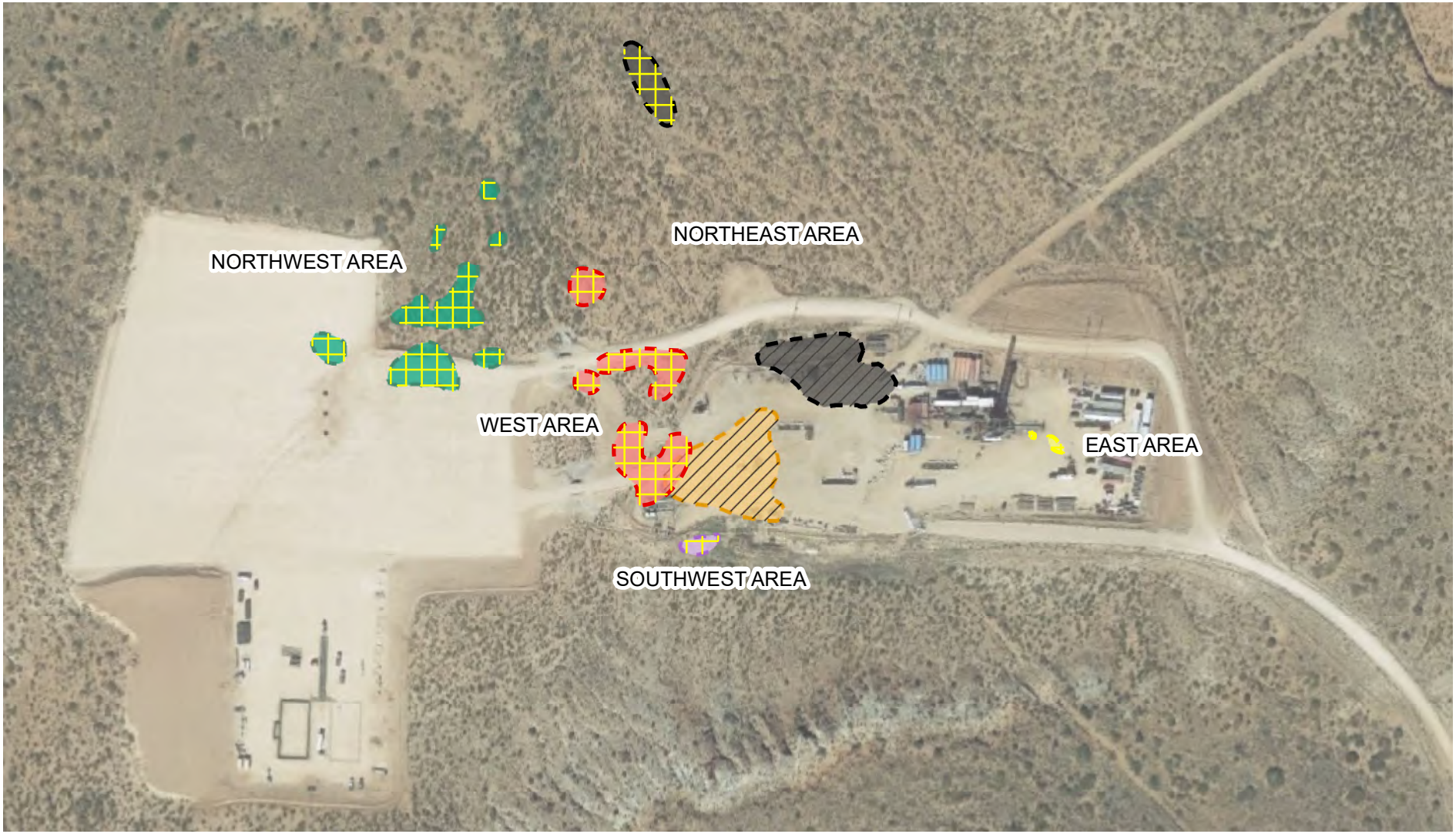



IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- 1,000 SQUARE FOOT GRID
- PROPOSED EXCAVATION EXTENT (2RP-2267)
- PROPOSED EXCAVATION EXTENT (2RP-2334)
- PROPOSED EXCAVATION EXTENT (2RP-2440)
- PROPOSED EXCAVATION EXTENT (2RP-3046, 2RP-3143, 2RP-3864, 2RP-4528)
- PROPOSED EXCAVATION EXTENT (NRM1935433078)
- PROPOSED EXCAVATION EXTENT (2RP-4625)
- PROPOSED 20-MIL POLY LINER INSTALLATION

0 300 600

Feet

N

FIGURE 9
PROPOSED CONFIRMATION SAMPLE GRID
JRU DI-1
UNITS B, C, F, & G SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

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TABLES

Received by OCD: 12/11/2020 11:30:06 AM

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| **Northeast Area** | | | | | | | | | | | | | | |
| SS01 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000598 | <0.00598 | <0.000598 | <0.00179 | <0.00179 | <0.120 | <4.79 | <4.79 | <4.79 | <4.79 | 201 |
| SS02 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000522 | <0.00522 | <0.000522 | <0.00157 | <0.00157 | <0.104 | <4.17 | <4.17 | <4.17 | <4.17 | 61.0 |
| SS03 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000514 | <0.00514 | <0.000514 | <0.00154 | <0.00154 | <0.103 | <4.11 | <4.11 | <4.11 | <4.11 | 40.2 |
| SS04 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000544 | <0.00544 | <0.000544 | <0.00163 | <0.00163 | <0.109 | 10.6 | 8.32 | 18.92 | 18.92 | **9,470** |
| SS05 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000646 | <0.00646 | <0.000646 | <0.00194 | <0.00646 | <0.129 | <5.17 | <5.17 | <5.17 | <5.17 | 211 |
| SS06 | 2RP-2267 | 0.5 | 12/20/2017 | <0.000552 | <0.00531 | <0.000531 | <0.00159 | 0.000552 | <0.106 | 12.8 | 14.6 | 27.4 | 27.40 | 66.7 |
| PH01 | 2RP-2267 | 4 | 02/26/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,970** |
| PH01A | 2RP-2267 | 16 | 02/26/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **6,410** |
| PH02 | 2RP-2267 | 3 | 02/26/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 41.1 |
| PH02A | 2RP-2267 | 4 | 02/26/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 61.5 |
| PH03 | 2RP-2267 | 1 | 02/26/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 102 |
| PH03A | 2RP-2267 | 5.5 | 02/26/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 490 |
| PH04 | 2RP-2267 | 1 | 02/26/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **713** |
| PH04A | 2RP-2267 | 4 | 02/26/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **998** |
| PH05 | 2RP-2267 | 1 | 02/26/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 469 |
| PH05A | 2RP-2267 | 6 | 02/27/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **781** |
| PH06 | 2RP-2267 | 2 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,790** |
| PH06A | 2RP-2267 | 5 | 02/27/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,560** |
| PH07 | 2RP-2267 | 2 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 185 |
| PH07A | 2RP-2267 | 4 | 02/27/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 519 |
| PH08 | 2RP-2267 | 1 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | 18.6 | <15.0 | 18.6 | 18.6 | 117 |
| PH08A | 2RP-2267 | 4 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **869** |
| PH09 | 2RP-2267 | 3 | 02/27/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **610** |
| PH09A | 2RP-2267 | 11 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **899** |
| PH10 | 2RP-2267 | 1 | 02/27/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 315 |
| PH10A | 2RP-2267 | 4 | 02/27/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 274 |
| PH11 | 2RP-2267 | 1 | 02/27/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 486 |
| PH11A | 2RP-2267 | 5 | 02/27/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 229 |
| PH12 | 2RP-2267 | 2 | 02/28/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 31.4 |
| PH12A | 2RP-2267 | 4 | 02/28/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 52.2 |
| PH13 | 2RP-2267 | 3 | 02/28/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 7.68 |
| PH13A | 2RP-2267 | 4 | 02/28/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 5.10 |
| PH14 | 2RP-2267 | 2 | 02/28/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH14A | 2RP-2267 | 4 | 02/28/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 29.7 |
| PH15 | 2RP-2267 | 1 | 02/28/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 22.8 |
| PH15A | 2RP-2267 | 4 | 02/28/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.96 |

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| PH16 | 2RP-2267 | 2 | 02/28/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 9.07 |
| PH16A | 2RP-2267 | 4 | 02/28/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 76.0 |
| PH17 | 2RP-2267 | 3 | 02/28/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH17A | 2RP-2267 | 4 | 02/28/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 9.15 |
| PH18 | 2RP-2267 | 3 | 02/28/2019 | <0.00200 | 0.00364 | 0.00469 | 0.0160 | 0.0243 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 492 |
| PH18A | 2RP-2267 | 4 | 02/28/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **617** |
| PH19 | 2RP-2267 | 1 | 02/28/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH19A | 2RP-2267 | 4 | 02/28/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 14.5 |
| BH01 | 2RP-2267 | 2 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <9.98 |
| BH01A | 2RP-2267 | 4 | 12/09/2019 | <0.00197 | <0.00197 | <0.00197 | <0.00197 | <0.00197 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 75.10 |
| BH02 | 2RP-2267 | 2 | 12/09/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 186 |
| BH02A | 2RP-2267 | 4 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 281 |
| BH03 | 2RP-2267 | 2 | 12/09/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.94 |
| BH03A | 2RP-2267 | 4 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <9.96 |
| BH04 | 2RP-2267 | 2 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.0 |
| BH04A | 2RP-2267 | 4 | 12/09/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 66.7 |
| BH05 | 2RP-2267 | 2 | 12/09/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | <9.94 |
| BH05A | 2RP-2267 | 4 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 258 |
| BH06 | 2RP-2267 | 2 | 12/09/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 23.9 |
| BH06A | 2RP-2267 | 4 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <9.88 |
| BH07 | 2RP-2267 | 2 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | **943** |
| BH07A | 2RP-2267 | 4 | 12/09/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 593 |
| BH08 | 2RP-2267 | 4 | 01/07/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 17.7 |
| BH09 | 2RP-2267 | 4 | 01/07/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | **792** |
| BH10 | 2RP-2267 | 4 | 01/07/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 106 |
| BH11 | 2RP-2267 | 4 | 01/07/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 59.8 |
| BH12 | 2RP-2267 | 4 | 01/07/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | <10.1 |
| **Southwestern Area** | | | | | | | | | | | | | | |
| SS-1 | 2RP-3524 | 0.5 | 12/13/2017 | 0.00148 | <0.00500 | <0.000500 | <0.00150 | 0.00148 | <0.100 | <20.0 | 37.2 | <20.0 | 37.2 | 130 |
| SS-2 | 2RP-3524 | 0.5 | 12/13/2017 | 0.000502 | <0.00500 | <0.000500 | <0.00150 | 0.000502 | <0.100 | 402 | 374 | 402 | 776 | **4,590** |
| SS-3 | 2RP-3524 | 0.5 | 12/13/2017 | 0.00151 | <0.00500 | <0.000500 | <0.00150 | 0.00151 | <0.100 | <4.00 | <4.00 | <4.00 | <4.00 | **33,000** |
| SS-4 | 2RP-3524 | 0.5 | 12/13/2017 | 0.00103 | <0.00500 | <0.000500 | <0.00150 | 0.00103 | <0.100 | 511 | 680 | 511 | **1,191** | **2,930** |
| SS-5 | 2RP-3524 | 0.5 | 12/13/2017 | 0.00306 | <0.00500 | 0.0007 | 0.00182 | 0.00558 | <0.100 | 5.42 | 9.83 | 5 | 15 | **6,020** |
| PH1 | 2RP-3524 | 1 | 02/08/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | 196 | 38.3 | 196 | **234** | **2,180** |
| PH1A | 2RP-3524 | 5 | 02/08/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | 41.6 | <15.0 | 42 | 41.6 | 119 |
| PH2 | 2RP-3524 | 1 | 02/08/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 21.5 |
| PH2A | 2RP-3524 | 2 | 02/08/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 513 |

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| PH3 | 2RP-3524 | 1 | 02/08/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 202 |
| PH3A | 2RP-3524 | 2 | 02/08/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 49.9 |
| PH4 | 2RP-3524 | 1 | 02/11/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 460 |
| PH4A | 2RP-3524 | 2 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 191 |
| PH5 | 2RP-3524 | 5 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **3,270** |
| PH5A | 2RP-3524 | 7 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 210 |
| PH6 | 2RP-3524 | 2 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **1,340** |
| PH6A | 2RP-3524 | 4 | 02/11/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 272 |
| PH7 | 2RP-3524 | 1 | 02/11/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **933** |
| PH7A | 2RP-3524 | 3 | 02/11/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 448 |
| PH8 | 2RP-3524 | 3 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **860** |
| PH8A | 2RP-3524 | 6 | 02/11/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 206 |
| PH9 | 2RP-3524 | 1 | 02/11/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **2,960** |
| PH9A | 2RP-3524 | 7 | 02/11/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 75 |
| PH10 | 2RP-3524 | 1 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,460** |
| PH10A | 2RP-3524 | 2 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 380 |
| PH11 | 2RP-3524 | 1 | 02/12/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 440 |
| PH11A | 2RP-3524 | 2 | 02/12/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **2,460** |
| PH12 | 2RP-3524 | 1 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | 15.8 | <15.0 | 15.8 | 15.8 | 115 |
| PH12A | 2RP-3524 | 8 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 113 |
| PH13 | 2RP-3524 | 1 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **994** |
| PH13A | 2RP-3524 | 4 | 02/12/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 89.3 |
| PH14 | 2RP-3524 | 3 | 02/12/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,320** |
| PH14A | 2RP-3524 | 13 | 02/12/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 69.6 |
| PH15 | 2RP-3524 | 1 | 02/12/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 43.2 |
| PH15A | 2RP-3524 | 2 | 02/12/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 86.1 |
| PH16 | 2RP-3524 | 1 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 76 |
| PH16A | 2RP-3524 | 2 | 02/13/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 167 |
| PH17 | 2RP-3524 | 3 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,210** |
| PH17A | 2RP-3524 | 7 | 02/13/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 65.1 |
| PH18 | 2RP-3524 | 1 | 02/13/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 196 |
| PH18A | 2RP-3524 | 2 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 148 |
| PH19 | 2RP-3524 | 1 | 02/13/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | 33.4 | <15.0 | 33.4 | 33.4 | **1,200** |
| PH19A | 2RP-3524 | 4 | 02/13/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 200 |
| PH20 | 2RP-3524 | 1 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 61.4 |
| PH20A | 2RP-3524 | 2 | 02/13/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 241 |
| PH21 | 2RP-3524 | 3 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,130** |
| PH21A | 2RP-3524 | 4 | 02/13/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 230 |

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| PH22 | 2RP-3524 | 2 | 02/13/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 502 |
| PH22A | 2RP-3524 | 6 | 02/13/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 62.4 |
| PH27 | 2RP-3524 | 1 | 02/15/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 20.3 |
| PH27A | 2RP-3524 | 2 | 02/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 27.1 |
| PH28 | 2RP-3524 | 1 | 02/15/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,010** |
| PH28A | 2RP-3524 | 5 | 02/15/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 264 |
| PH29 | 2RP-3524 | 1 | 02/15/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 130 |
| PH29A | 2RP-3524 | 2 | 02/15/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 112 |
| SS01 | NRM1935433078 | 0.5 | 10/23/2019 | <0.00198 | 0.0114 | 0.0113 | 0.0611 | 0.0838 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 74.2 |
| SS02 | NRM1935433078 | 0.5 | 10/23/2019 | 0.00450 | 0.0954 | 0.0360 | 0.180 | 0.316 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | **5,340** |
| SS03 | NRM1935433078 | 0.5 | 10/23/2019 | 0.00361 | 0.319 | 0.228 | 1.09 | 1.64 | 442 | 2,230 | 248 | 2,670 | **2,920** | **12,500** |
| SS04 | NRM1935433078 | 0.5 | 10/23/2019 | 4.54 | 0.389 | 12.9 | 63.8 | **81.6** | 2,150 | 6,580 | 1,090 | 8,730 | **9,820** | **14,200** |
| SS05 | NRM1935433078 | 0.5 | 10/23/2019 | 0.0697 | 1.63 | 0.904 | 5.03 | 7.63 | 644 | 2,900 | 274 | 3,540 | **3,820** | **9,400** |
| SS06 | NRM1935433078 | 0.5 | 10/23/2019 | 4.07 | 68.9 | 25.3 | 125 | **223** | 3,900 | 8,620 | 1,020 | 12,500 | **13,500** | **10,800** |
| SS07 | NRM1935433078 | 0.5 | 10/23/2019 | <0.00200 | 0.0150 | <0.00200 | 0.0299 | 0.0449 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 39.0 |
| SS08 | NRM1935433078 | 0.5 | 10/23/2019 | <0.00202 | <0.00202 | <0.00202 | 0.00718 | 0.00718 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 9.38 |
| SS09 | NRM1935433078 | 0.5 | 10/23/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 10.2 |
| BH01 | NRM1935433078 | 0.5 | 01/23/2020 | 1.16 | 21.2 | 9.05 | 41.1 | 72.5 | 2,020 | 3,770 | 432 | 5,790 | **6,220** | **8,230** |
| BH01A | NRM1935433078 | 2 | 01/23/2020 | 0.0332 | 1.35 | 0.887 | 4.54 | 6.81 | 212 | 1,330 | 107 | 1,540 | **1,650** | **9,310** |
| BH01B | NRM1935433078 | 7.5 | 01/23/2020 | <0.0102 | 0.0936 | 0.0611 | 0.334 | 0.489 | <50.3 | 748 | 115 | 748 | **863** | **2,650** |
| BH02 | NRM1935433078 | 0.5 | 01/23/2020 | 0.137 | 2.53 | 1.78 | 9.21 | 13.7 | 368 | 1,990 | 168 | 2,360 | **2,530** | **13,700** |
| BH02A | NRM1935433078 | 2 | 01/23/2020 | 0.0212 | 0.220 | 0.126 | 0.709 | 1.08 | <50.1 | 207 | <50.1 | 207 | **207** | **13,500** |
| BH02B | NRM1935433078 | 6.5 | 01/23/2020 | 0.0107 | 0.0691 | 0.0521 | 0.315 | 0.447 | <50.1 | 161 | <50.1 | 161 | **161** | 235 |
| BH03 | NRM1935433078 | 0.5 | 01/23/2020 | 0.0755 | 0.883 | 1.14 | 9.67 | 11.8 | 1,950 | 18,300 | 1750 | 20,300 | **22,000** | **5,400** |
| BH03A | NRM1935433078 | 2 | 01/23/2020 | <0.00201 | 0.00754 | 0.0108 | 0.0693 | 0.0876 | <50.2 | 202 | <50.2 | 202 | **202** | 182 |
| BH03B | NRM1935433078 | 8 | 01/23/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 22.1 |
| BH04 | NRM1935433078 | 1 | 01/24/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 13.8 |
| BH04A | NRM1935433078 | 4 | 01/24/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.0 |
| BH04B | NRM1935433078 | 8 | 01/24/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.1 |
| BH05 | NRM1935433078 | 1 | 01/24/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 43.5 |
| BH05A | NRM1935433078 | 4 | 01/24/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 12.7 |
| BH05B | NRM1935433078 | 8 | 01/24/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 19.6 |
| BH06 | NRM1935433078 | 1 | 01/24/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.1 |
| BH06A | NRM1935433078 | 4 | 01/24/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | <10.0 |
| BH06B | NRM1935433078 | 7.5 | 01/24/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.0 |
| BH07 | NRM1935433078 | 1 | 01/24/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 18.4 |
| BH07A | NRM1935433078 | 4 | 01/24/2020 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | <10.0 |
| BH07B | NRM1935433078 | 8 | 01/24/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <10.0 |

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| SS-1 | 2RP-3662 | 2.5 | 12/20/2017 | 0.000914 | <0.00600 | <0.000600 | <0.00180 | 0.000914 | <0.120 | <4.80 | <4.80 | <4.80 | <4.80 | 63.4 |
| SS-2 | 2RP-3662 | 1.5 | 12/20/2017 | 0.000813 | <0.00661 | <0.000661 | <0.00198 | 0.000813 | <0.132 | <5.29 | <5.29 | <5.29 | <5.29 | <13.2 |
| SS-3 | 2RP-3662 | 1.5 | 12/20/2017 | 0.00156 | <0.00603 | <0.000603 | <0.00181 | 0.00156 | <0.121 | <4.83 | <4.83 | <4.83 | <4.83 | 115 |
| SS-4 | 2RP-3662 | 1.5 | 12/20/2017 | 0.00119 | <0.00610 | <0.000610 | <0.00183 | 0.00119 | <0.122 | <4.88 | <4.88 | <4.88 | <4.88 | 79.2 |
| SS-5 | 2RP-3662 | 1.5 | 12/20/2017 | <0.000558 | <0.00558 | <0.000558 | <0.00167 | <0.00167 | <0.112 | <4.46 | <4.46 | <4.46 | <4.46 | 46.3 |
| SS-6 | 2RP-3662 | 2 | 12/20/2017 | 0.000982 | <0.00616 | <0.000616 | <0.00185 | 0.000982 | <0.123 | <4.93 | <4.93 | <4.93 | <4.93 | 88.1 |
| SS-7 | 2RP-3662 | 1.5 | 12/20/2017 | <0.000679 | <0.00679 | <0.000679 | <0.00204 | <0.00679 | <0.136 | <5.43 | <5.43 | <5.43 | <5.43 | 75.5 |
| SS-8 | 2RP-3662 | 1.5 | 12/20/2017 | <0.000653 | <0.00653 | <0.000653 | <0.00196 | <0.00653 | <0.131 | <5.23 | <5.23 | <5.23 | <5.23 | 52.2 |
| SS-9 | 2RP-3662 | 4 | 12/20/2017 | 0.000728 | <0.00627 | <0.000627 | <0.00188 | 0.000728 | <0.125 | <5.01 | <5.01 | <5.01 | <5.01 | 79.6 |
| SS-1 | 2RP-4528 | 0.5 | 12/13/2017 | 0.00102 | <0.00500 | 0.000887 | 0.0023 | 0.004207 | 0.286 | 17.1 | 10.2 | 17.1 | 27.5 | **36,300** |
| SS-2 | 2RP-4528 | 0.5 | 12/13/2017 | <0.000500 | <0.00500 | <0.000500 | <0.00150 | <0.00500 | <0.100 | 7.45 | 8.72 | 7.45 | 16.1 | **1,600** |
| SS-3 | 2RP-4528 | 0.5 | 12/13/2017 | <0.000500 | <0.00500 | <0.000500 | <0.00150 | <0.00500 | <0.100 | 10.8 | 11.3 | 10.8 | 22.1 | **9,720** |
| SS-4 | 2RP-4528 | 0.5 | 12/13/2017 | <0.000500 | <0.00500 | <0.000500 | <0.00150 | <0.00500 | <0.100 | 8.04 | <4.00 | 8.04 | 8.04 | **8,240** |
| SS-5 | 2RP-4528 | 0.5 | 12/13/2017 | <0.000500 | <0.00500 | <0.000500 | <0.00150 | <0.00500 | <0.100 | 23.5 | 35.7 | 23.5 | 59.2 | **7,510** |
| **West Area** | | | | | | | | | | | | | | |
| PH01 | 2RP-2440 | 2 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 121 |
| PH01A | 2RP-2440 | 4 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 33.7 |
| PH02 | 2RP-2440 | 1 | 07/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.96 |
| PH02A | 2RP-2440 | 4 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 12.0 |
| PH03 | 2RP-2440 | 1 | 07/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 222 |
| PH03A | 2RP-2440 | 4 | 07/17/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 26.9 |
| PH04 | 2RP-2440 | 1 | 07/17/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 86.0 |
| PH04A | 2RP-2440 | 4 | 07/17/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 7.48 |
| PH05 | 2RP-2440 | 1 | 07/17/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| PH05A | 2RP-2440 | 4 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 34.3 |
| PH06 | 2RP-2440 | 1 | 07/17/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 19.3 |
| PH06A | 2RP-2440 | 4 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 6.64 |
| PH07 | 2RP-2440 | 1 | 07/17/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 23.5 |
| PH07A | 2RP-2440 | 4 | 07/17/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| PH08 | 2RP-2440 | 1 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 44.9 |
| PH08A | 2RP-2440 | 4 | 07/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 16.1 |
| PH09 | 2RP-2440 | 1 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 12.4 |
| PH09A | 2RP-2440 | 4 | 07/17/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,600** |

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| PH10 | 2RP-2440 | 1 | 07/17/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH10A | 2RP-2440 | 4 | 07/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 14.9 |
| PH11 | 2RP-2440 | 1 | 07/18/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.05 |
| PH11A | 2RP-2440 | 4 | 07/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.05 |
| PH12 | 2RP-2440 | 1 | 07/18/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | <5.05 |
| PH12A | 2RP-2440 | 4 | 07/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH13 | 2RP-2440 | 1 | 07/18/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.02 |
| PH13A | 2RP-2440 | 4 | 07/18/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.99 |
| PH14 | 2RP-2440 | 1 | 07/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 14.5 |
| PH14A | 2RP-2440 | 4 | 07/18/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.97 |
| SS01 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | **6,290** |
| SS02 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | **9,230** |
| SS03 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | **6,230** |
| SS04 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | **4,300** |
| SS05 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | **3,290** |
| SS06 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00197 | <0.00197 | <0.00197 | <0.00197 | <0.00197 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | **1,710** |
| SS07 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 305 |
| SS08 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | **858** |
| SS09 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 369 |
| SS10 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | **660** |
| SS11 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | **610** |
| SS12 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | **623** |
| SS13 | NRM2002747253 | 0.5 | 12/09/2019 | <0.000196 | <0.000196 | <0.000196 | <0.000196 | <0.000196 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | **978** |
| SS14 | NRM2002747253 | 0.5 | 12/09/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | **648** |
| **East Area** | | | | | | | | | | | | | | |
| PH01 | 2RP-2334 | 2 | 2/19/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 393 |
| PH01A | 2RP-2334 | 4 | 2/19/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 65.1 |
| PH02 | 2RP-2334 | 2 | 2/19/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 78.1 |
| PH02A | 2RP-2334 | 4 | 2/19/2019 | <0.00200 | 0.0250 | <0.00200 | <0.00200 | 0.0250 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **793** |
| PH03 | 2RP-2334 | 1 | 2/19/2019 | <0.00201 | 0.0193 | <0.00201 | <0.00201 | 0.0193 | <15.0 | 19.2 | <15.0 | 19.2 | 19.2 | **806** |
| PH03A | 2RP-2334 | 4 | 2/19/2019 | <0.00199 | 0.0170 | <0.00199 | <0.00199 | 0.0170 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 18 |
| PH04 | 2RP-2334 | 2 | 2/19/2019 | <0.00200 | 0.0149 | <0.00200 | <0.00200 | 0.0149 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 113 |
| PH04A | 2RP-2334 | 4 | 2/19/2019 | <0.00200 | 0.0135 | <0.00200 | <0.00200 | 0.0135 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 130 |
| PH05 | 2RP-2334 | 3 | 2/19/2019 | <0.00199 | 0.0113 | <0.00199 | <0.00199 | 0.0113 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 95.7 |
| PH05A | 2RP-2334 | 4 | 2/19/2019 | <0.00201 | 0.0109 | <0.00201 | <0.00201 | 0.0109 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 57.1 |

Received by OCD: 12/11/2020 11:30:06 AM

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| **Northwest Area** | | | | | | | | | | | | | | |
| SS1 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 297 |
| SS2 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **666** |
| SS3 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 555 |
| SS4 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 538 |
| SS5 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 511 |
| SS6 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.99 |
| SS7 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | <5.00 |
| SS8 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 8.56 |
| SS9 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| SS10 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 5.30 |
| SS11 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| SS12 | 2RP-4625 | 0.5 | 2/5/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,030** |
| SS01 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 584 |
| SS02 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **7,280** |
| SS03 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,330** |
| SS04 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **4,390** |
| SS05 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,920** |
| SS06 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,590** |
| SS07 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | **3,680** |
| SS08 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **2,680** |
| SS09 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **4,630** |
| SS10 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 6.17 |
| SS11 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00198 | 0.00241 | 0.0142 | <0.00198 | 0.0166 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,640** |
| SS12 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 88.3 |
| SS13 | 2RP-4625 | 0.5 | 4/6/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **995** |
| PH01 | 2RP-4625 | 1 | 7/15/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | 20.1 | <15.0 | 20.1 | 20.1 | 96.7 |
| PH01A | 2RP-4625 | 4 | 7/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH02 | 2RP-4625 | 2 | 7/15/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 23.5 |
| PH02A | 2RP-4625 | 4 | 7/15/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 6.81 |
| PH03 | 2RP-4625 | 1 | 7/15/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 116 |
| PH03A | 2RP-4625 | 4 | 7/15/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 46.4 |
| PH04 | 2RP-4625 | 1 | 7/15/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 128 |
| PH04A | 2RP-4625 | 4 | 7/15/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 11.8 |
| PH05 | 2RP-4625 | 1 | 7/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 31.40 |
| PH05A | 2RP-4625 | 4 | 7/15/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| PH06 | 2RP-4625 | 1 | 7/15/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 94 |
| PH06A | 2RP-4625 | 4 | 7/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.99 |

Received by OCD: 12/11/2020 11:30:06 AM

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

**JRU DI COMBINED**
**REMEDIATION PERMIT NUMBER**
**EDDY COUNTY, NEW MEXICO**
**XTO ENERGY, INC.**

| Sample Name | RP numbers | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **NE** | **100** | **600** |
| PH07 | 2RP-4625 | 1 | 7/15/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.02 |
| PH07A | 2RP-4625 | 4 | 7/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.98 |
| PH08 | 2RP-4625 | 1 | 7/15/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 11.3 |
| PH08A | 2RP-4625 | 4 | 7/15/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 62.5 |
| PH09 | 2RP-4625 | 1 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 13.4 |
| PH09A | 2RP-4625 | 2 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 57.5 |
| PH09B | 2RP-4625 | 3 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 526.0 |
| PH09C | 2RP-4625 | 4 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,540.0** |
| PH09D | 2RP-4625 | 5 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 474 |
| PH10 | 2RP-4625 | 1 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 5.18 |
| PH10A | 2RP-4625 | 4 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.01 |
| PH11 | 2RP-4625 | 2 | 7/16/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **845** |
| PH11A | 2RP-4625 | 4 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| PH12 | 2RP-4625 | 1 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 37.7 |
| PH12A | 2RP-4625 | 4 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 10.5 |
| PH13 | 2RP-4625 | 3 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 165.0 |
| PH13A | 2RP-4625 | 4 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 531 |
| PH14 | 2RP-4625 | 3 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 43.3 |
| PH14A | 2RP-4625 | 4 | 7/16/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | 16.8 | <15.0 | 16.8 | 16.8 | 103 |
| PH15 | 2RP-4625 | 2 | 7/16/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 535 |
| PH15A | 2RP-4625 | 4 | 7/16/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| PH16 | 2RP-4625 | 2 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | **1,150** |
| PH16A | 2RP-4625 | 4 | 7/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 8.93 |
| PH17 | 2RP-4625 | 2 | 7/17/2019 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <0.00201 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 117 |
| PH17A | 2RP-4625 | 4 | 7/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.95 |
| PH18 | 2RP-4625 | 1 | 7/17/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 125 |
| PH18A | 2RP-4625 | 4 | 7/17/2019 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.01 |
| PH19 | 2RP-4625 | 1 | 7/16/2019 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 6.88 |
| PH19A | 2RP-4625 | 4 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | 50.5 |
| PH19B | 2RP-4625 | 5 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <14.9 | <14.9 | <14.9 | <14.9 | <14.9 | 11.7 |
| PH20 | 2RP-4625 | 1 | 7/16/2019 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <4.96 |
| PH20A | 2RP-4625 | 4 | 7/16/2019 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes mg/kg - milligrams per kilogram
NE - not established
NMOCD - New Mexico Oil Conservation Division

DRO - diesel range organics
GRO - gasoline range organics ORO - oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
NMAC - New Mexico Administrative Code

**Bold**- indicates result exceeds the applicable regulatory standard
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
J3 - the association batch QC was outside the established quality control range for precision
J6 - the sample matrix interfered with the ability to make any accurate determination; spike value is low

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nHmP1411836637

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. 260737 | Contact: Tony Savoie |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU-21 SWD-1 | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-41074 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1508 | North | 1926 | East | Eddy |

**Latitude** N 32.381464 **Longitude** W 103.883210

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced water | Volume of Release: 1200 bbls. | Volume Recovered: 1000 bbls. |
| Source of Release: Frac tank overflow | Date and Hour of Occurrence: 4/14/14 approximately 8:30 a.m. | Date and Hour of Discovery: 4/14/14 at 4:30 p.m. by BOPCO |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? NMOCD emergency #104 and the BLM | |
| By Whom? Tony Savoie | Date and Hour: 4/14/14 at 8:30 p.m. | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

RECEIVED
APR 24 2014
NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The rig was filling the frac tanks on-site in preparation of running acid on the SWD well, the pumps were shut down however the valves were misaligned by the rig crew and the water continued to gravitate into the tanks from the Legg Federal SWD water source causing the frac tanks to overflow undetected.

Describe Area Affected and Cleanup Action Taken.*
The frac tanks were set inside a plastic lined containment. The frac containment overflowed into a secondary earthen containment that was breached allowing water to leave the pad area and travel down a dry drainage ditch then eventually spread out into the pasture area north of the drilling pad. The spill impacted approximately 7200 sq.ft. of pad area and approximately 2700 sq.ft. of pasture area. Approximately 800 bbls of produced water were recovered from the lined frac containment and approximately 200 bbls were recovered from the earthen backup containment. Remediation activities are scheduled to begin as soon as the BLM arch survey is cleared. The rig moved off location on 4/22/14.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date:4/24/14 Phone: 432-556-8730

## OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/28/14 Expiration Date: NA

Conditions of Approval:
Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 5/28/14

Attached ☐

2RP-2267

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2267 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2267 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____  _____ Date: _____

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

**OCD Only**

Received by: _____ Date**:** _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2267 |
| Facility ID | |
| Application ID | |

# 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: _____

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nHMP1416331258

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. 260737 | Contact: Tony Savoie |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU Drilling Island #1 Well #135H | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-42376 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| H | 21 | 22S | 30E | 1526 | NORTH | 1270 | EAST | EDDY |

**Latitude** N 32.381079 **Longitude** W 103.881948

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced water | Volume of Release: 15 bbls | Volume Recovered: 10 bbls |
| Source of Release: Off-load line to frac tank | Date and Hour of Occurrence: 6/4/14 approximately 2:00 p.m. | Date and Hour of Discovery: 6/4/14 approximately 2:00 p.m. |
| Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required | If YES, To Whom? | |
| By Whom? | Date and Hour | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 09 2014
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If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Independence Rig #202 Was circulating the well during drilling operations. A vacuum truck on-site was pulling fluid from one of the return tanks, the vacuum hose was laid on the ground and the fluid from the tank syphoned out onto the ground.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 200 sq.ft. of well pad area. The free standing fluid was recovered and the saturated soil was scraped up and stockpiled on site pending disposal. The final remediation will be done after the rig and equipment have been removed from the drill site.
The remediation activities will comply with the NMOCD and BLM remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 6/9/14 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 6/12/14 Expiration Date: NA

Conditions of Approval:
Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 7/12/14

Attached ☐

2RP-2334

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2334 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2334 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2334 |
| Facility ID | |
| Application ID | |

# 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: _____

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 13 2014
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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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1422639350 260737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. | Contact: Tony Savoie |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU-DI-1-JRU-21 SWD | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-41074 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1508 | North | 1926 | East | Eddy |

**Latitude** N 32.380643 **Longitude** W 103.884473

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced water | Volume of Release: 600 bbls. | Volume Recovered: 500 bbls. |
| Source of Release: SWD Pump | Date and Hour of Occurrence: 8/8/14 Time unknown | Date and Hour of Discovery: 8/8/14 at approximately 12:00 p.m. |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher and Jim Amos (BLM) | |
| By Whom? Tony Savoie | Date and Hour: 8/8/14 at 1:26 p.m. | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
An 8"x6" reducer failed on the suction side of the SWD horizontal pumps. The pumps shut down on low suction and the valves to the pump were manually closed. The fitting was replaced.

Describe Area Affected and Cleanup Action Taken.*
The SWD pumps were enclosed in 0 perm containment with a holding capacity of approximately 500 bbls. The fluid ran over the containment walls and impacted approximately 900 sq.ft. of caliche pad. The spill traveled off the pad via a narrow gully for approximately 750 ft. spread out and impacted approximately 6,400 sq.ft. of pasture area. All of the fluid on the pad and pasture area soaked into the ground. BOPCO is in the process of setting up an Arch survey to gain access to the area to be remediated.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date:8/13/14 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 8/14/14 Expiration Date: N/A

Conditions of Approval:
Remediation per OCD Rule & Guidelines. SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 2RP-2440

Attached ☐

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2440 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2440 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2440 |
| Facility ID | |
| Application ID | |

# 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: _____

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 2 2015
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Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1503439598

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. 260737 | Contact: Tony Savoie |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU-DI-1-JRU-21 SWD Pump | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-41074 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1508 | North | 1926 | East | Eddy |

**Latitude** N 32.380643 **Longitude** W 103.884473

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced water | Volume of Release: 120 bbls. | Volume Recovered: 112 bbls. |
| Source of Release: SWD Pump | Date and Hour of Occurrence: 1/31/15 at approx. 3:00 p.m. | Date and Hour of Discovery: 1/31/15 at approx. 3:00 p.m. |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher, Heather Patterson, and Jim Amos (BLM) | |
| By Whom? Tony Savoie | Date and Hour: 1/31/15 at 6:01 p.m. | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A fiberglass connection failed on the suction line to the SWD H-pumps, the pumps were shut down and valves were closed to isolate the damaged area. Crews started re-building the suction line header the day of the spill.

Describe Area Affected and Cleanup Action Taken.*
The spill was mostly contained in the 0-perm containment around the SWD pumps. A vacuum truck recovered 110 bbls from the containment and approximately 2 bbls off the ground. The pad area that was impacted by the release was the same area as impacted by a previous spill, reference 2RP-2440. The area had been recently sampled and reviewed by the BLM. Remediation activities were scheduled to begin when the drilling equipment was moved off the location.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

| | |
|---|---|
| Signature: Tony Savoie | OIL CONSERVATION DIVISION |
| Printed Name: Tony Savoie | Approved by Environmental Specialist: |
| Title: Waste Management and Remediation Specialist | Approval Date: 2/3/15 Expiration Date: N/A |
| E-mail Address: tasavoie@basspet.com | Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 3/3/15 Attached ☐ |
| Date: 2/2/15 Phone: 432-556-8730 | 2RP-2782 |

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2782 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2782 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____  _____ Date: _____

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

**OCD Only**

Received by: _____ Date**:** _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-2782 |
| Facility ID | |
| Application ID | |

# 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: _____

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 12 2015
RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88240
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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1516652299 2RP-737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. | Contact: Amy Ruth |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: James Ranch Unit #012H | Facility Type: Production Well |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1450 | North | 1830 | East | Eddy |

**Latitude** 32.380677° **Longitude** -103.884454°

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Brine Water | Volume of Release 818 bbls | Volume Recovered 740 bbls |
| Source of Release Jet pump on triplex unit | Date and Hour of Occurrence 6/8/2015 Time unknown | Date and Hour of Discovery 6/8/2015 approx. 7 am |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Heather Patterson (NMOCD) and Jim Amos (BLM) | |
| By Whom? Tony Savoie | Date and Hour 9:34 am and 9:37 am respectively 6/8/15 @ 9:31am (according to notification) | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Vibration caused a bolt to shear off of the filter pot lid on the jet pump. Unit was LOTO until repairs can be made. Standing fluids were recovered from the ground and pump containments.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 43,350 square feet of well pad and 880 square feet of pasture on the north side of the pad. The impacted area will be delineated and addressed.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:
Printed Name: Amy Ruth
Title: Assistant Remediation Foreman
E-mail Address: ACRuth@basspet.com
Date: 6/10/2015 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 6/16/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

**Remediation per O.C.D. Rules & Guidelines**
**SUBMIT REMEDIATION PROPOSAL NO LATER THAN:** 7/17/15

2RP-3046

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3046 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3046 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3046 |
| Facility ID | |
| Application ID | |

# 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: _____

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1620256930 — 2RP-3143

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. — 260737 | Contact: Tony Savoie |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU-12H on the JRU-DI-Well pad | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1450 | North | 1830 | East | Eddy |

Latitude N 32.380666° Longitude W 103.884459°

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced Water | Volume of Release: 77 bbls. | Volume Recovered: 50 bbls |
| Source of Release: Suction strainer to Jet Pump | Date and Hour of Occurrence: 7/18/15, time unknown | Date and Hour of Discovery: 7/18/15 at approximately 8:30 p.m. |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher, Heather Patterson and Jim Amos | |
| By Whom? Tony Savoie | Date and Hour: 7/19/15 at 5:15 a.m. (via e-mail) | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 21 2015
RECEIVED

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A bolt on the jet pump suction strainer sheared off, releasing water on the well pad and containment. The transfer pump to the jet pump shut down on low discharge which automatically shut down the jet pump.

Describe Area Affected and Cleanup Action Taken.*
The release was partly contained in the 0 perm containment around the pump, the remainder of the fluid impacted approximately 1500 sq.ft. of caliche well pad. This area has had previous reportable spills. It was estimated that 40 bbls of PW was recovered from the containment and 10 bbls picked up from the pad.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 7/21/15 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/21/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 8/22/15

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3143 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

| | |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release? | >100 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☒ No |
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| 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 |
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| 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.
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Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3143 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3143 |
| Facility ID | |
| Application ID | |

# 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)

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☐ 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: _____

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 28 2016
RECEIVED

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1602952102

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. 260737 | Contact: Amy Ruth |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU #012H | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1450 | North | 1830 | East | Eddy |

**Latitude** 32.380851° **Longitude** -103.883785°

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced Water | Volume of Release: 22 bbls pw | Volume Recovered: 5 bbls pw |
| Source of Release: Discharge flow line | Date and Hour of Occurrence: 1/18/2016 time unknown | Date and Hour of Discovery: 1/18/2016 4:30 pm |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher/Heather Patterson (NMOCD) | |
| By Whom? Amy Ruth | Date and Hour 1/19/2016 at 8:21 am | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
The discharge line from the triplex pump to the well head developed a leak below ground surface. Line was isolated, then excavated and repaired.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 7,135 ft² of well pad. Standing fluids were recovered.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:
Printed Name: Amy C. Ruth
Title: EHS Remediation Specialist
E-mail Address: ACRuth@basspet.com
Date: 1/27/2016 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Signed By
Approved by Environmental Specialist:

Approval Date: 1/29/16 Expiration Date: N/A

Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 3/1/16

2RP-3524

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3524 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3524 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3524 |
| Facility ID | |
| Application ID | |

# 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: _____

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1611933379 2160737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. | Contact: Amy Ruth |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: James Ranch Unit #12H | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1450 | North | 1830 | East | Eddy |

Latitude 32.380700° Longitude -103.884298°

## NATURE OF RELEASE

| | | | |
|---|---|---|---|
| Type of Release | Produced Water | Volume of Release<br>24 bbls | Volume Recovered<br>10 bbls |
| Source of Release | Line Failure from Jet Pump to Well | Date and Hour of Occurrence<br>4/21/2016 time unknown | Date and Hour of Discovery<br>4/21/2016 2:20 pm |
| Was Immediate Notice Given?<br>☐ Yes ☐ No ☒ Not Required | | If YES, To Whom?<br>N/A | |
| By Whom? N/A | | Date and Hour N/A | |
| Was a Watercourse Reached?<br>☐ Yes ☒ No. | | If YES, Volume Impacting the Watercourse.<br>N/A | |

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 27 2016
RECEIVED

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Collar on pressurized steel line corroded and fluids escaped to ground surface. Line was isolated and exposed. Line will be replaced.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 900 square feet of well pad. Standing fluids were recovered.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:
Printed Name: Amy C. Ruth
Title: EHS Remediation Specialist
E-mail Address: ACRuth@basspet.com
Date: 4/27/2016 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:
Approval Date: 4/28/16 Expiration Date: N/A
Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 5/28/16

2RP-3662

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3662 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3662 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3662 |
| Facility ID | |
| Application ID | |

# 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: _____

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 06 2016
RECEIVED

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1625130938 210737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: BOPCO, L.P. | Contact: Amy Ruth |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 575-887-7329 |
| Facility Name: JRU #012H | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1600 | North | 2100 | East | Eddy |

Latitude 32.380535° Longitude -103.884395°

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced Water | Volume of Release: 65 bbl | Volume Recovered: 50 bbl |
| Source of Release: Jet Pump Suction Line | Date and Hour of Occurrence: 8/26/2016 time unknown | Date and Hour of Discovery: 8/26/2016 6:20 pm |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher/Heather Patterson (NMOCD), Shelly Tucker (BLM) | |
| By Whom? Amy Ruth | Date and Hour 8/26/2016 at 7:15 pm by email | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
The 4" poly suction line for the jet pump ruptured. The lease operator shut down the charge pump and isolated the valves. The section of line was repaired.

Describe Area Affected and Cleanup Action Taken.*
The leak affected approximately 7,000 square feet of caliche pad and was prevented from entering the pasture due to the berms surrounding the drill island. Vacuum trucks recovered standing fluid.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Amy C Ruth

Printed Name: Amy C. Ruth

Title: EHS Remediation Specialist

E-mail Address: ACRuth@basspet.com

Date: 9/1/2016 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Signed By Mike Bratcher

Approved by Environmental Specialist:

Approval Date: 9/6/16 Expiration Date: N/A

Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 10/8/16 Attached ☐

2RP-3804

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3864 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3864 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-3864 |
| Facility ID | |
| Application ID | |

# 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: _____

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 18 2017
RECEIVED

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1736044200 BOPCO 210737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company XTO Energy | Contact Kyle Littrell |
| Address522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No. 432-221-7331 |
| Facility Name: James Ranch Unit DI-1 #012H | Facility Type Exploration and Production |

| | | |
|---|---|---|
| Surface Owner Federal | Mineral Owner Federal | API No. 30-015-22162 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1550 | north | 2110 | east | Eddy |

Latitude 32.380659° Longitude -103.884436° NAD83

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Produced Water | Volume of Release 18 BPW | Volume Recovered 17 BPW |
| Source of Release Triplex jet pump | Date and Hour of Occurrence 12/6/2017 time unknown | Date and Hour of Discovery 12/6/2017 7 am |
| Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required | If YES, To Whom? N/A | |
| By Whom? N/A | Date and Hour N/A | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
A 2"x3" swedge on the triplex jet pump failed. The well was shut in until repairs can be made.

Describe Area Affected and Cleanup Action Taken.*
The release affected the impermeable lined containment and approximately 1 bbl of PW misted outside containment and impacted roughly 1250 square feet of caliche pad. All free-standing liquids were recovered from the containment and the containment and equipment were power washed. XTO mapped the extent of the release visually then excavated impacted material from pad surface. Impacted gravel was taken to Lea Land for disposal. Soil samples were collected to confirm compliance with NMOCD site specific standards. A XTO Maintenance Supervisor who is competent in the operation, maintenance, and inspection of all on-site equipment and facilities visually inspected the containment and verified there was no visual evidence of a liner breach. XTO will provide a closure report documenting soil removal and disposal, confirmation soil sampling results, and any other site remediation activities to the NMOCD upon receipt of laboratory analytical results.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

| | |
|---|---|
| Signature: | OIL CONSERVATION DIVISION |
| Printed Name: Kyle Littrell | Approved by Environmental Specialist: |
| Title: Environmental Coordinator | Approval Date: 12/26/17 Expiration Date: N/A |
| E-mail Address: Kyle_Littrell@xtoenergy.com | Conditions of Approval: See attached Attached ☒ 2RP-4528 |
| Date: 12/15/2017 Phone: 432-221-7331 | |

* Attach Additional Sheets If Necessary

12/22/17AB

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4528 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4528 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4528 |
| Facility ID | |
| Application ID | |

# 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: _____

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 15 2018
RECEIVED

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1805036031 — 373910 — 210237

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: XTO Energy | Contact: Kyle Littrell |
| Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 | Telephone No: 432-221-7331 |
| Facility Name: JRU DI 1 #127 (@ JRU DI 1A) | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No: 30-015-43231 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| B | 21 | 22S | 30E | 1290 | North | 2590 | East | Eddy |

**Latitude** 32.38141 **Longitude** -103.88592 NAD83

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Produced Water | Volume of Release: 115 bbls | Volume Recovered: 25 |
| Source of Release: Victaulic clamp connection on contractor trailer | Date and Hour of Occurrence: 2/3/2018 time unknown | Date and Hour of Discovery: 2/3/2018 2:15 pm |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM) | |
| By Whom? Amy Ruth | Date and Hour: 2/3/2018 7:13 pm | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
A 10" Victaulic clamp became disconnected from a contractor trailer. Pumps were shut down and the clamp was properly reconnected. Fluids escaped the duck ponds to the ground. The trailer and associated tanks were placed within high-walled plastic lined containment until completion of the operation.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 21,000 square feet of caliche pad and extended approximately 350 feet North/Northeast into the pasture. Free standing fluids were recovered. An environmental contractor was retained to assist with the remediation and soil samples have been collected.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Kyle Littrell

Printed Name: Kyle Littrell

Title: Environmental Coordinator

E-mail Address: Kyle_Littrell@xtoenergy.com

Date: 2/15/2018 Phone: 432-221-7331

## OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 2/16/18 Expiration Date: N/A

Conditions of Approval: See Attached Attached ☐ 2RP-4625

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAB1805036031 |
| District RP | 2RP-4625 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAB1805036031 |
| District RP | 2RP-4625 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: Cristina Eads Date: 12/09/2020

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAB1805036031 |
| District RP | 2RP-4625 |
| Facility ID | |
| Application ID | |

# 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: Cristina Eads Date: 12/09/2020

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

Signature: Date: 12/11/2020

MAY 17 2018

DISTRICT II-ARTESIA O.C.D.

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

nAB1814128830 / BOPCO 260737

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: XTO Energy | Contact: Amy C. Ruth |
| Address: 3104 E. Greene St., Carlsbad, N.M. 88220 | Telephone No: 575-689-3380 |
| Facility Name: James Ranch Unit DI1 #157H | Facility Type: Exploration and Production |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No: 30-015-42607 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| G | 21 | 22S | 30E | 1590 | North | 1885 | East | Eddy |

**Latitude** 32.380562° **Longitude** -103.88368° NAD83

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: Crude Oil | Volume of Release: 13 bbls | Volume Recovered: 10 bbls |
| Source of Release: Temporary oil tank | Date and Hour of Occurrence: 5/4/2018 8 am | Date and Hour of Discovery: 5/4/2018 8 am |
| Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required | If YES, To Whom? N/A | |
| By Whom? N/A | Date and Hour: N/A | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Due to a faulty head switch, a temporary oil tank at the flow back site overflowed. The head switch was repaired and the tank was returned to operation.

Describe Area Affected and Cleanup Action Taken.*
The release affected the southwest edge of the well pad. Free standing fluids were recovered. An environmental contractor will be retained to assist with delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Amy Ruth

Printed Name: Amy C. Ruth

Title: Environmental Coordinator

E-mail Address: Amy_Ruth@xtoenergy.com

Date: 5/17/2018 Phone: 575-689-3380

## OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By Mike Bratcher

Approval Date: 5/17/18 Expiration Date: N/A

Conditions of Approval: See attached

Attached ☐ 2RP-4756

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4756 |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4756 |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | 2RP-4756 |
| Facility ID | |
| Application ID | |

# 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: _____

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 | NRM1935433078 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

HIE9U-191101-C-1410

## Responsible Party

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

## Location of Release Source

Latitude 32.380435 Longitude -103.884174
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name JRU DI 1 # 163 | Site Type Well Location |
| Date Release Discovered 10/18/2019 | API# *(if applicable)* 30-015-41694 (JRU DI 1 # 163) |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| G | 21 | 22S | 30E | EDDY |

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

## 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) 0.41 | Volume Recovered (bbls) 0.10 |
| ☒ Produced Water | Volume Released (bbls) 7.72 | Volume Recovered (bbls) 1.90 |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: The lease operator found a leak from a buried 3" steel flow line due to external corrosion. The well was shut-in until repairs were made on the flow line and the release remained on pad. Additional third party resources have been retained to assist in the remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1935433078 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☐ Yes ☒ No | If YES, for what reason(s) does the responsible party consider this a major release?<br><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><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: 11/1/2019

email: Kyle_Littrell@xtoenergy.com Telephone:

**OCD Only**

Received by: Ramona Marcus Date: 12/20/2019

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1935433078 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1935433078 |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM1935433078 |
| District RP | |
| Facility ID | |
| Application ID | |

# 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: _____

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 | NRM2002747253 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

P5X0A-191211-C-1410

## Responsible Party

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

## Location of Release Source

Latitude 32.380679 Longitude -103.884438
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name JRU 21 SWD #1 | Site Type SWD Location |
| Date Release Discovered 11/27/2019 | API# *(if applicable)* 30-015-41074 (James Ranch Unit 21 SWD #1) |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| G | 21 | 22S | 30E | EDDY |

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

## 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) 0.0 | Volume Recovered (bbls) 0.0 |
| ☒ Produced Water | Volume Released (bbls) 579.92 | Volume Recovered (bbls) 500.00 |
| | Is the concentration of dissolved chloride 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: Release was caused by the expansion joint/vibration damper on suction side of H-pump failing. Spill consisted of 480 bbls produced water into lined containment, all recovered. Another 79.92 bbls of produced water overflowed the containment and approximately 20 bbls was recovered from it. Additional third party resources have been retained to assist in the remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2002747253 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br><br>YES – An unauthorized release of fluid over 25 barrels. |

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
YES, by Amy Ruth : Mike Bratcher; Rob Hamlet; Victoria Venegas; "Griswold, Jim, EMNRD"; blm_nm_cfo_spill@blm.gov; Crisha Morgan by email on November 27, 2019 at 8:15 AM.

## 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:

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: Adrian Baker Title: SH&E Coordinator

Signature: [signature] Date: 12/11/2019

email: Adrian_Baker@xtoenergy.com Telephone: 4322363808

**OCD Only**

Received by: Ramona Marcus Date: 01/27/2020

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2002747253 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2002747253 |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Coordinator_____

Signature:_____ _____ Date: _____

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

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2002747253 |
| District RP | |
| Facility ID | |
| Application ID | |

# 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: SOIL BORING AND LITHOLOGIC LOGS

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

| | |
|---|---|
| Identifier: PH 16 | Date: 02/13/2019 |
| Project Name: JRU DI 1 | RP Number: 3524/3046. |
| Logged By: GG | Method: HA |
| Lat/Long: | Field Screening: PID / CTS |
| Hole Diameter: 3.5" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| | Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0850 | D | 364 | 0.4 | N | 1 | 0 | | | |
| | | | | | | 1 | | | silt/clay, Brown, low plasticity |
| 0855 | D | 313 | 0.4 | N | 2 | | | | clay loam, Brown, low Plasticity |
| | | | | | | 2 | | | |
| | | | | | | 3 | | | |
| | | | | | | 4 | | | |
| | | | | | | 5 | | | |
| | | | | | | 6 | | | |
| | | | | | | 7 | | | |
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| | | | | | | 11 | | | |
| | | | | | | 12 | | | |

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

| Identifier: | Date: |
|---|---|
| PH17 | 02/13/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: / Field Screening: PID/CTS | Hole Diameter: 3.5" / Total Depth: 7' |

Comments:

| | Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0915 | D | 1600 | 0.3 | N | 1 | 1 | | | silt/clay/brown, medplasticity |
| 0920 | D | 1600 | 0.3 | N | 2 | 2 | | | clayloam/red/brown, medplasticity |
| 0930 | D | 2291 | 0.8 | N | 3 | 3 | | | clayloam/redbrown, medplasticity |
| 0935 | D | 646 | 0.8 | N | 4 | 4 | | | clayloam/redbrown, medplasticity |
| 0945 | D | 646 | 0.6 | N | 5 | 5 | | | clayloam/redbrown, medplasticity |
| 0950 | D | 716 | 0.9 | N | 6 | 6 | | | clay, loam red, lowplasticity |
| 1000 | D | 313 | 0.1 | N | 7 | 7 | | | clay, red, lowplasticity |
| | | | | | | 8 | | | |
| | | | | | | 9 | | | |
| | | | | | | 10 | | | |
| | | | | | | 11 | | | |
| | | | | | | 12 | | | |

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

| Identifier: PH 18 | Date: 02/13/2018 |
|---|---|
| Project Name: JRU OI 1 | RP Number: 3524 / 3046 |
| Logged By: GG | Method: HA |
| Lat/Long: | Field Screening: PID / CTS |
| Hole Diameter: 3.5" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| 1010 D | 364 | 0.8 | N | 1 | 0–1 | | | silt/clay, Brown, low plasticity |
| 1015 D | 268 | 0.4 | N | 2 | 1–2 | | | clay loam, red/brown, low plasticity |

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

| Identifier: | Date: |
|---|---|
| PH19 | 02/13/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: / Field Screening: PID / CTS | Hole Diameter: 7.5" / Total Depth: 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 1100 D | 1984 | 0.8 | N | 1 | 1 | | | clayloam, redbrown, lowplasticity |
| 1115 D | 1376 | 1.0 | N | 2 | 2 | | | clayloam, redbrown, lowplasticity |
| 1125 D | 928 | 1.5 | N | 3 | 3 | | | clayloam, redbrown, lowplasticity |
| 1135 D | 313 | 1.1 | N | 4 | 4 | | | clayloam, brown, medplasticity |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
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| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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

| Identifier: | Date: |
|---|---|
| PH 20 | 02/13/2019 |
| **Project Name:** | **RP Number:** |
| JRUDI 1 | 3046 / 3524 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: | Field Screening: PID / LTS / Hole Diameter: 3.5" / Total Depth: 21 |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 13 | | | | | | | | |
| 1320 D | 224 | 0.9 | N | 1 | 1 | | | sandy/clay, red brown, med plasticity |
| 1330 D | 364 | 0.7 | N | 2 | 2 | | | clayloam, Brown, low plasticity |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
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| | | | | | 12 | | | |

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

| | |
|---|---|
| Identifier: PH21 | Date: 02/13/2019 |
| Project Name: JRU DI1 | RP Number: 3524/3046 |
| Logged By: G G | Method: HA |
| Lat/Long: | Field Screening: PID / CTS |
| Hole Diameter: 3.5" | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| 1340 D | 1600 | 0.8 | N | 1 | 0–1 | | | sandy loam, light brown, low plasticity |
| 1345 D | 2131 | 0.7 | N | 2 | 1–2 | | | clay loam, Brown, low plasticity |
| 1400 D | 2656 | 1.5 | N | 3 | 2–3 | | | sandy loam, Dark brown, low plasticity |
| 1405 D | 416 | 1.7 | N | 21 | 3–4 | | | Sandy loam, Dark brown, low plasticity |

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| Identifier: | Date: |
|---|---|
| PH2I | 02/13/2019 |
| **Project Name:** | **RP Number:** |
| SRU DI I | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: | Field Screening: PID/CTS / Hole Diameter: 3.5" / Total Depth: 6' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 1425 D | 313 | 1.5 | N | 1 | 1 | | | clay loam, Dark brown, med plasticity |
| 1430 D | 246 | 1.3 | N | 2 | 2 | | | clay loam, Brown, med plasticity |
| 1440 D | 1094 | 1.1 | N | 3 | 3 | | | sandy loam, Brown, low Plasticity |
| 1445 D | 1184 | 1.2 | N | 4 | 4 | | | sandy loam, Brown, low plasticity |
| 1455 D | 1984 | 2.2 | N | 5 | 5 | | | sandy loam, Brown, no plasticity |
| 1500 D | 224 | 0.8 | N | 6 | 6 | | | sandy loam, Brown, no plasticity |
| | | | | | 7 | | | |
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| Identifier: PH28 | Date: |
|---|---|
| Project Name: | RP Number: |
| Logged By: | Method: |
| Hole Diameter: | Total Depth: |

**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 | | | |
| 0935 | 1464 | 0.3 | | 1 | 1 | | | sandy loam, light brown, noplasticity gravel |
| 0940 | 1376 | 0.4 | | 2 | 2 | | | sandy loam, dark brown, low plasticity |
| 0955 | 1376 | 0.7 | | 3 | 3 | | | sandy loam, brown, low plasticity |
| 1000 | 646 | 0.3 | | 4 | 4 | | | sandy loam, brown, low plasticity |
| 1030 | 524 | 2.5 | | 5 | 5 | | | |
| | | | | | 6 | | | |
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| Identifier: | Date: |
|---|---|
| PH27 | 02/15/2019 |
| **Project Name:** | **RP Number:** |
| JRVOI 1 | 3524/3046 |
| **Logged By:** GG | **Method:** VEX |
| **Lat/Long:** | **Field Screening:** CTS/PID |
| **Hole Diameter:** 3.5" | **Total Depth:** |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | 180 | 1.3 | | 1 | 0840 | | | Sandy loam, red brown, low plasticity |
| | 180 | 1.0 | | 2 | 0910 | | | Sandy loam, red brown, low plasticity |

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| Identifier: PH29 | Date: |
|---|---|
| Project Name: | RP Number: |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: | Method: |
|---|---|
| Lat/Long: Field Screening: | Hole Diameter: Total Depth: |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 1420 | 180 | 0.7 | | 1 | 1 | | | sandy loam, red/brown, med plasticity, |
| 1430 | 160 | 1.4 | | 2 | 2 | | | |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
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| Identifier: | Date: |
|---|---|
| PH10 | 02/12/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: Auger |
| Lat/Long: | Field Screening: PID/CTS / Hole Diameter: 3.5" / Total Depth: 2' |

Comments:

| Time | Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | | |
| 0910 | D | 1600 | 0.4 | N | 1 | 1 | | | clay loam, low plasticity, reddish brown |
| 0920 | D | 524 | 0.5 | N | 2 | 2 | | | clay loam, low plasticity, light brown |
| | | | | | | 3 | | | |
| | | | | | | 4 | | | |
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| Identifier: | Date: |
|---|---|
| PH11 | 02/12/2019 |
| **Project Name:** | **RP Number:** |
| JRUDI 1 | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: G G / Method: Auger |
| Lat/Long: | Field Screening: PID/CTS / Hole Diameter: 3.5" / Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 0930 D | 568 | 0.5 | | 1 | 1 | | | clay loam, red/brown, low plasticity |
| 0940 D | 180 | 0.1 | | 2 | 2 | | | clay loam, red/brown, low plasticity |
| | | | | | 3 | | | |
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| Identifier: | Date: |
|---|---|
| PH12 | 02/12/2019 |
| Project Name: | RP Number: |
| JRU DI 1 | 3524/3046 |
| Logged By: GG | Method: HA |
| Lat/Long: | Field Screening: PID/CTS |
| Hole Diameter: 3.5" | Total Depth: 8' |

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| | 332 | 0.3 | | 1 | 1 | | | clay loam, low plasticity, dark brown |
| | ~~3321~~ 2464 | 0.3 | | 2 | 2 | | | clay loam, low plasticity, dark Brown |
| | 1376 | 0.6 | | 3 | 3 | | | clay loam dark brown, low plasticity |
| | 1376 | 0.5 | | 4 | 4 | | | clay loam dark red/brown, low plasticity |
| | 1649 | 0.7 | | 5 | 5 | | | clay loam, light red/brown, low plasticity |
| | 760 | 0.6 | | 6 | 6 | | | sandy loam, light brown, no plasticity |
| | 588 | 0.6 | | 7 | 7 | | | sandy ~~loam~~/red/brown, no plasticity |
| | 180 | 0.6 | | 8 | 8 | | | sandy ~~loam~~/red/brown, no plasticity |
| | | | | | 9 | | | |
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| Identifier: | Date: |
|---|---|
| PH13 | 02/12/2019 |
| **Project Name:** | **RP Number:** |
| JRUDI 1 | 3524 / 3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: | Field Screening: PID / CTS / Hole Diameter: 3.5" / Total Depth: 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 1105 D | 1484 | 0.6 | | 1 | 1 | | | clay loam, brown, low plasticity some gravel |
| 1115 D | 1376 | 0.6 | | 2 | 2 | | | clay loam, brown, low plasticity |
| 1125 D | 1376 | 0.6 | | 3 | 3 | | | clay loam, brown low plasticity |
| 1130 | 180 | 0.5 | | 4 | 4 | | | clay loam, red/brown, low plasticity |
| | | | | | 5 | | | |
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| Identifier: PH14 | Date: 02/12/2019 |
|---|---|
| Project Name: JRUDI 1 | RP Number: 3524 / 3046. |
| Logged By: GG | Method: HA |
| Lat/Long: | Field Screening: PID / CTS |
| Hole Diameter: 3.5" | Total Depth: 13' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| | Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | | |
| 1140 | | 2131 | 0.2 | | 1 | 1 | | | clay loam, Brown, med plasticity |
| 1150 | | 3321 | 0.2 | | 2 | 2 | | | clay loam, red/brown, med plasticity |
| 1240 | | 3590 | 0.4 | | 3 | 3 | | | clay loam, red/brown, med plasticity |
| 1250 | | 2464 | 0.6 | | 4 | 4 | | | clay loam, Dark brown, low plasticity |
| 1310 | | 1600 | 0.4 | | 5 | 5 | | | clay loam, red brown, med plasticity |
| 1315 | | 1984 | 0.1 | | 6 | 6 | | | clay loam, red brown, med plasticity |
| 1325 | | 1984 | 0.6 | | 7 | 7 | | | clay loam, dark brown, med plasticity |
| 1330 | | 1484 | 0.7 | | 8 | 8 | | | clay loam, dark brown, med plasticity |
| 1345 | | 1184 | 0.6 | | 9 | 9 | | | clay loam, dark red, brown, med plasticity |
| | | | | | ~~10~~ | 10 | | | |
| 1400 | | 1011 | 0.9 | | 10 | 11 | | | Dark red brown, clay loam high clay med to high |
| 1415 | | 928 | 0.7 | | 11 | 12 | | | Dark red brown, clay loam high clay med to high plasticity. |
| 1440 | | 180 | 1.0 | | 12 | 13 | | | Dark red brown, clay loam |

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| Identifier: | Date: |
|---|---|
| PH 15 | 02/12/2019 |
| **Project Name:** | **RP Number:** |
| JRU OIL | 3524/3046 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: HA |
| Lat/Long: | Field Screening: PID/CTS / Hole Diameter: 3.5" / Total Depth: 2' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | |
| 1445 | 313 | 0.8 | | 1 | 1 | | | |
| 1455 | 268 | 0.4 | | 2 | 2 | | | |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
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| Identifier: | Date: |
|---|---|
| BH01 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | <128 | 0.9 | NO | BH01 | 2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | <128 | 0.7 | NO | BH01A | 4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |

0 1 2 3 4 5 6 7 8 9 10 11 12

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| Identifier: | Date: |
|---|---|
| BH02 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | 148 | 1.2 | NO | BH02 | 2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | 172 | 0.9 | NO | BH02A | 4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |

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| Identifier: | Date: |
|---|---|
| BH03 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | <128 | 1.7 | NO | BH03 | 0–2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | <128 | 1.3 | NO | BH03A | 2–4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |



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| Identifier: | Date: |
|---|---|
| BH04 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | <128 | 1.7 | NO | BH04 | 2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | 244 | 1.9 | NO | BH04A | 4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |

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| Identifier: | Date: |
|---|---|
| BH05 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | <128 | 0.8 | NO | BH05 | 2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | 172 | 1.2 | NO | BH05A | 4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |

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| Identifier: | Date: |
|---|---|
| BH06 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | <128 | 1.8 | NO | BH06 | 0–2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | <128 | 2.5 | NO | BH06A | 2–4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |



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| Identifier: | Date: |
|---|---|
| BH07 | 12/9/2019 |
| Project Name: | RP Number: |
| JRU-21-SWD-1 | 2RP-2267 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: WM | Method: Hand Auger |
|---|---|

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | Cl, TPH | 4" | 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| DRY | 696 | 1.5 | NO | BH07 | 0–2 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |
| DRY | 388 | 1.8 | NO | BH07A | 2–4 | | SP | Fine SAND, Some SILT, Trace CLAY<br>Non-Cohesive, Low Plasticity, Poorly Sorted, Red/Brown |



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| Identifier: | Date: |
|---|---|
| PH1 | 02/08/2019 |
| Project Name: JRU 01 1 | RP Number: |
| Logged By: | Method: |
| Hole Diameter: | Total Depth: |

**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 |
|---|---|---|---|---|---|---|---|---|
| | | | | ~~PH1~~ | 0 | | | |
| D | 3071 | 4.3 | Yes | PH1 | 1 | | | no plasticity, clay loam. Brownish red, high clay |
| D | 716 | 0.9 | N | PH1A | 2 | | | no plasticity, clay loam Redish brown |
| D | 928 4.0 | 2.0 | N | PH1B | 3 | | | NO Plasticity clay loan Redish brown |
| D | 646 | 0.2 | N | PH1C | 4 | | | low plasticity clay loam, high clay Dark red Brown |
| D | 467 | 0.0 | N | PH1D | 5 | | | low plasticity, clay loam, high clay Dark red brown |
| | | | | | 6 | | | |
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| Identifier: PH2 | Date: |
|---|---|
| Project Name: | RP Number: |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: | Method: |
|---|---|
| Hole Diameter: | Total Depth: |

| Lat/Long: | Field Screening: |
|---|---|

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <180 | 0.1 | N | PH2a | 0 | | | red noplasticity, clay/sand |
| D | <180 | 0.1 | N | PH2a | 1 | | | red noplasticity, clay loam |
| | | | | | 2 | | | |
| | | | | | 3 | | | |
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| Identifier: PH3 | Date: |
|---|---|
| Project Name: | RP Number: |
| Logged By: | Method: |
| Hole Diameter: | Total Depth: |

**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 |
|---|---|---|---|---|---|---|---|---|
| D | 2156 | 0.0 | N | PH3 | 1 | | | gravel/sand - little clay, fine grained, no plasticity |
| D | 524 | 0.0 | N | PH3a | 2 | | | gravel/sand - little clay, light brown, no plasticity |
| | | | | | 0 | | | |
| | | | | | 3 | | | |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
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| Identifier: | Date: |
|---|---|
| PH4 | 02/01/2019 |
| Project Name: | RP Number: |
| JRU DI 1 | 3524 |
| Logged By: GG | Method: Hand Auger |
| Field Screening: PID / CTS | Hole Diameter: 3.5" |
| Lat/Long: | Total Depth: |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 4716 | 0.3 | N | 1 | 0–1 | | | dark red/brown, silt w/clay low plasticity |
| D | 180 | 0.4 | N | 2 | 1–2 | | | light red/brown, silty clay low plasticity |
| | | | | | 2–3 | | | |
| | | | | | 3–4 | | | |
| | | | | | 4–5 | | | |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: | Date: |
|---|---|
| PH 5 | 2/11/2018 |
| **Project Name:** | **RP Number:** |
| JRU OI 1 | 3524 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: Hand Auger |
| Lat/Long: / Field Screening: PID/CTS | Hole Diameter: 3.5" / Total Depth: |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 2854 | 0.0 | N | 1 | 0–1 | | | silty clay, light brown, no plasticity |
| D | 1280 | 0.0 | N | 2 | 2 | | | silty clay light reddish Brown low plasticity |
| D | 2654 | 0.3 | N | 3 | 3 | | | clay loam, reddish brown low plasticity |
| D | 3884 | 0.1 | N | 4 | 4 | | | clay loam, light brown to tan low plasticity |
| D | 3884 | 0.3 | N | 5 | 5 | | | clay loam, tan, low plasticity |
| D | 1011 | 0.2 | N | 6 | 6–7 | | | sandy loam, reddish brown, no plasticity |
| D | 268 | 0.3 | N | | 8–12 | | | sandy loam, reddish brown, no plasticity |

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| Identifier: | Date: |
|---|---|
| PH6 | 2/11/2018 |
| **Project Name:** | **RP Number:** |
| JRUDI 1 | 3524 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: | Method: |
|---|---|
| GG | Hand Auger |

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | PID/CTS | 3.5" | |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 1376 | 0.5 | N | 1 | 1 | | | sandy loam, no plasticity, reddish brown |
| D | 3321 | 0.5 | N | 2 | 2 | | | sandy loam, no plasticity, reddish/brown |
| D | 928 | 0.9 | N | 3 | 3 | | | sandy loam, red, No plasticity |
| D | 524 | 0.7 | N | 4 | 4 | | | sand-y loam, red, No plasticity |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
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| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: | Date: |
|---|---|
| PH7 | 02/11/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524 |

**LITHOLOGIC / SOIL SAMPLING LOG**

| Logged By: | Method: |
|---|---|
| GG | Hand auger |

| Lat/Long: | Field Screening: | Hole Diameter: | Total Depth: |
|---|---|---|---|
| | PID/CTS | 3.5" | |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 1484 | 0.4 | N | 1 | 1 | | | silty clay, reddish brown, low plasticity |
| D | 716 | 0.6 | N | 2 | 2 | | | silty clay, reddish brown, low plasticity |
| D | 524 | 0.7 | N | 3 | 3 | | | silty clay, reddish brown, low plasticity |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
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| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: | Date: |
|---|---|
| PH8 | 02/11/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524 |
| **Logged By:** GG | **Method:** Hand Auger |
| **Lat/Long:** | **Field Screening:** PID/LTS |
| **Hole Diameter:** 3.5" | **Total Depth:** |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 928 | 9.4 | N | 1 | 1 | | | silty clay w/gravel light brown low plasticity |
| D | 1094 | 16.4 | N | 2 | 2 | | | silty clay Dark brown low Plasticity |
| D | 1376 | 1.7 | N | 3 | 3 | | | clay loam red/brown, low plasticity |
| D | 1280 | 1.3 | N | 4 | 4 | | | clay loam, red brown, low plasticity |
| D | 646 | 0.9 | N | 5 | 5 | | | clay loam red/brown, med plasticity |
| D | 467 | 0.9 | N | 6 | 6 | | | clay loam red/brown, med Plasticity |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
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| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: | Date: |
|---|---|
| PH09 | 02/11/2019 |
| **Project Name:** | **RP Number:** |
| JRU DI 1 | 3524 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: GG / Method: Hand Auger |
| Lat/Long: | Field Screening: PID/CTS / Hole Diameter: 3.5" / Total Depth: |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | 3884 | 1.0 | N | 1 | 0–1 | | | silt/clay, Brown, low plasticity |
| | 2854 | 1.0 | N | 2 | 1–2 | | | clayloam, Red/brown, medplasticity |
| | 2854 | 0.4 | N | 3 | 2–3 | | | clayloam, Brown, medplasticity |
| | 2656 | 0.9 | N | 4 | 3–4 | | | clayloam brown, lowplasticity |
| | 1011 | 0.8 | N | 5 | 4–5 | | | clayloam, brown, lowplasticity |
| | 716 | 0.8 | N | 6 | 5–6 | | | clayloam, brown, low plasticity |
| | 180 | 0.4 | N | 7 | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH01 | Date: 02/26/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2667 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | 2428 | 0.6 | N | | 0–1 | 1' | S | Clayey Sand Poor grade |
| dry | 2076 | 0.5 | N | | 2 | 2' | S | Clayey Sand Poorgrade |
| dry | 2428 | 0.3 | N | | 3 | 3' | S | Sandy Clay Poor grade |
| dry | 2244 | 0.1 | N | | 4 | 4' | S | Sand trace Clay Poor grade |
| | | | | | 5 | | | |
| dry | 3284 | 0.1 | N | | 6 | 6' | S | Sand trace Clay Poor grade |
| | | | | | 7 | | | |
| dry | 3580 | 0.6 | N | | 8 | 8.5' | S | Sand trace Clay Poor grade |
| | | | | | 9 | | | |
| dry | 3580 | 0.6 | N | | 10 | 10' | S | Sand trace Clay Poor grade |
| | | | | | 11 | | | |
| dry | 3580 | 0.4 | N | | 12–13 | 14' | S | Sand trace Clay Poor grade |

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| Identifier: PH02 | Date: 02/26/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 0.1 | N | | 0–1 | 1' | S | Sand trace Clay Poor grade |
| dry | <128 | 0.1 | N | | 1–2 | 2' | S | Sand trace Clay Poor grade |
| dry | <128 | 0.4 | N | | 2–3 | 3' | S | Clayey Sand Poor grade |
| dry | <128 | 0.4 | N | | 3–4 | 4' | S | Clayey Sand Poor grade |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
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| | | | | | 12 | | | |

| LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation | Identifier: PH03 | Date: 02/26/19 |
|---|---|---|
| | Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: | Hole Diameter: 2' / Total Depth: 5.5' |
| Comments: | | |

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 1.4 | N | | 0–1 | 1' | S | Sand trace Clay Poor grade |
| dry | <128 | 0.8 | N | | 1–2 | 2' | S | Sand trace Clay Poor grade |
| dry | 328 | 0.4 | N | | 2–3 | 3' | S | Clayey Sand Medium grade |
| dry | 720 | 0.1 | N | | 3–4 | 4' | S | Clayey Sand Medium grade |
| dry | 488 | 0.6 | N | | 4–5 | 5.5' | S | Clayey Sand Medium grade |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH04 | Date: 02/26/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2ft | 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 | 580 | 0.4 | N | | 0–1 | 1' | S | Sand trace Clay PG |
| dry | 1240 | 1.1 | N | | 2 | 2' | S | Sand trace Clay PG |
| dry | 800 | 0.4 | N | | 3 | 3' | S | Sand trace Clay MG |
| dry | 684 | 0.1 | N | | 4 | 4' | S | Sand trace Clay MG |
| dry | 532 | 0.1 | N | | 5–6 | 6' | S | ~~Sand~~ Clayey Sand MG |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
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| Identifier: PH05 | Date: 02/26/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2ft | Total Depth: 4' |

**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 | 380 | 3.2 | N | | 0–1 | 1' | S | Sand trace Clay PG |
| dry | 916 | 0.4 | N | | 2 | 2' | S | sand trace Clay PG |
| dry | 1060 | 0.7 | N | | 3 | 3' | S | Sand trace Clay MG |
| dry | 1060 | 0.4 | N | | 4 | 4' | S | Clayey Sand MG |
| dry | 628 | 0.3 | N | | 5–6 | 6' | S | Sand trace Clay PG |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: PH06 | Date: 02/27/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M | Method: Pot hole |
| Hole Diameter: 2 ft | Total Depth: 4' |

**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 | 1140 | 0.1 | N | | 0–1 | 1' | S | Clayey Sand PG |
| dry | 852 | 1.2 RM | N | | 1–2 | 2' | S | Clayey Sand PG |
| dry | 1224 | 0.1 | N | | 2–3 | 3' | S | Sandy Clay MG |
| dry | 1896 | 0.2 | N | | 3–4 | 4' | S | Sandy Clay PG |
| dry | 1760 | 0.1 | N | | 4–5 | 5' | S | Sand trace Clay MG |



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| Identifier: PH07 | Date: 02/27/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot Hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2Pt | Total Depth: 4' |

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | 2128 | 0.1 | N | | 0–1 | 1' | S | Clayey Sand MG |
| dry | <128 | 0.4 | N | | 2 | 2' | S | Clayey Sand MG |
| dry | <128 | 0.3 | N | | 3 | 3' | S | Sand trace Clay MG |
| dry | 380 | 0.3 | N | | 4 | 4' | S | Sand trace Clay MG |

5 6 7 8 9 10 11 12

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| Identifier: PH08 | Date: 02/27/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2ft | Total Depth: 4' |

**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 | <128 | 0.4 | N | | 0–1 | 1' | S | Sand trace Clay MG |
| dry | <128 | 0.3 | N | | 1–2 | 2' | S | Sand trace Clay MG |
| dry | <128 | 0.3 | N | | 2–3 | 3' | S | Sand trace Clay MG |
| dry | 580 | 0.1 | N | | 3–4 | 4' | S | Clayey Sand MG |

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| Identifier: PH09 | Date: 02/27/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M | Method: Pot hole |
| Hole Diameter: 2Pt | Total Depth: 11' |

**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 | 580 | 0.8 | N | | 0–1 | 1' | | Clayey Sand PG |
| dry | 380 | 0.9 | N | | 1–2 | 2' | | Clayey Sand PG |
| dry | 492 | 1.3 | N | | 2–3 | 3' | | Clayey Sand MG |
| dry | 1524 | 0.7 | N | | 3–4 | 4' | | Clayey Sand MG |
| dry | 1524 | 0.7 | N | | 4–5 | 5' | | Sand trace Clay PG |
| Moist | 1524 | 1.4 | N | | 7–8 | 8' | | Sand trac Clay PG |
| Moist | 580 | 0.4 | N | | 10–11 | 11' | | Clayey Sand MG-HG |

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| | |
|---|---|
| Identifier: PH10 | Date: 02/27/19 |
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 0.6 | N | | 0–1 | 1' | S | Sand trace Clay MG-HG |
| dry | <128 | 0.4 | N | | 1–2 | 2' | S | Sand trace Clay MG-HG |
| dry | <128 | 0.4 | N | | 2–3 | 3' | S | Sand trace Clay PG-MG |
| dry | <128 | 0.5 | N | | 3–4 | 4' | S | Sand trace Clay MG-HG |
| | | | | | 4–5 | | | |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH11 | Date: 02/27/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | 368 | 3.2 | N | | 0–1 | 1' | S | Sand trace clay MG |
| dry | 368 | 0.1 | N | | 1–2 | 2' | S | Clayey Sand MG |
| dry | 1000 | 0.7 | N | | 2–3 | 3' | S | Clayey Sand MG |
| dry | 1072 | 1.4 | N | | 3–4 | 4' | S | Sand trace Clay MG |
| dry | <128 | 0.8 | N | | 5–6 | 6' | S | Sand trace Clay PG |

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| Identifier: PH12 | Date: 02/28/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 1.1 | N | | 0–1 | 1' | S | Sand trace clay PG |
| dry | <128 | 2.0 | N | | 1–2 | 2' | S | Sand trace Clay PG |
| dry | <128 | 1.8 | N | | 2–3 | 3' | S | Sand trace Clay PG |
| dry | <128 | 0.9 | N | | 3–4 | 4' | S | Sand trace Clay PG |

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| Identifier: PH13 | Date: 02/28/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2' | Total Depth: 4' |

**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 | <128 | 1.1 | N | | 0–1 | 1' | S | Sand trace Clay |
| dry | <128 | 2.0 | N | | 2 | 2' | S | Sand trace Clay |
| dry | <128 | 1.8 | N | | 3 | 3' | S | Sand trace Clay |
| dry | <128 | 0.9 | N | | 4 | 4' | S | Sand trace Clay |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| | |
|---|---|
| Identifier: PH14 | Date: 02/28/19 |
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 24" | Total Depth: 4' |

**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 | <128 | 1.3 | N | | 0–1 | 1' | S | Sand trace Clay PG |
| dry | <128 | 2.3 | N | | 2 | 2' | S | Sand trace Clay PG |
| dry | <128 | 0.9 | N | | 3 | 3' | S | Sand trace Clay PG |
| dry | <128 | 0.7 | N | | 4 | 4' | S | Sand trace Clay PG |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: PH15 | Date: 02/28/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | <128 | 3.1 | N | | 0–1 | 1' | S | Sand trace Clay PG |
| | <128 | 1.7 | N | | 1–2 | 2' | S | Sand trace Clay PG |
| | <128 | 0.7 | N | | 2–3 | 3' | S | Sand trace Clay PG |
| | <128 | 0.9 | N | | 3–4 | 4' | S | Sand trace Clay PG |
| | | | | | 4–5 | | | |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH16 | Date: 02/28/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2ft | Total Depth: 4' |

**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 | <128 | 1.6 | N | | 0–1 | 1' | S | Sand trace Clay Mg |
| dry | <128 | 4.2 | N | | 1–2 | 2' | S | Sand trace Clay Pg |
| dry | <128 | 2.5 | N | | 2–3 | 3' | S | ~~Sand trace Clay~~ Clayey Sand PG |
| dry | <128 | 2.5 | N | | 3–4 | 4' | S | Sand trace Clay PG |
| | | | | | 4–5 | | | |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH17 | Date: 02/28/19 |
|---|---|
| Project Name: JRU DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Robert M. | Method: Pot hole |
| Hole Diameter: 2ft | Total Depth: 4' |

**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 | <128 | 2.5 | N | | 0–1 | 1' | S | Sand trace Clay MG |
| dry | <128 | 1.6 | N | | 1–2 | 2' | S | Sand trace Clay MG |
| dry | <128 | 2.6 | N | | 2–3 | 3' | S | Sand trace Clay MG |
| dry | <128 | 2.6 | N | | 3–4 | 4' | S | Sand trace Clay MG |
| | | | | | 4 | | | |
| | | | | | 5 | | | |
| | | | | | 6 | | | |
| | | | | | 7 | | | |
| | | | | | 8 | | | |
| | | | | | 9 | | | |
| | | | | | 10 | | | |
| | | | | | 11 | | | |
| | | | | | 12 | | | |

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| Identifier: PH18 | Date: 02/28/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| Logged By: Roberto M. | Method: Pot hole |
| Lat/Long: | Field Screening: |
| Hole Diameter: 2ft | Total Depth: 4' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments:

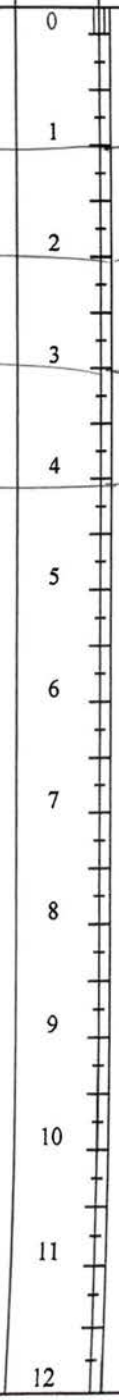
| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 0.4 | N | | 0–1 | 1' | S | Sand trace Clay MG |
| dry | <128 | 2.4 | N | | 1–2 | 2' | S | Sand trace Clay PG |
| Moist | 368 | 4.5 | N | | 2–3 | 3' | S | Clayey Sand PG |
| Moist | 368 | 3.5 | N | | 3–4 | 4' | S | Sand trace clay PG |
| | | | | | 4–5 | | | |
| | | | | | 5–6 | | | |
| | | | | | 6–7 | | | |
| | | | | | 7–8 | | | |
| | | | | | 8–9 | | | |
| | | | | | 9–10 | | | |
| | | | | | 10–11 | | | |
| | | | | | 11–12 | | | |

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| Identifier: PH19 | Date: 02/28/19 |
|---|---|
| Project Name: JRV DI 1 SWD | RP Number: 2RP-2267 |
| **LITHOLOGIC / SOIL SAMPLING LOG** Logged By: Robert M. | Method: Pot hole |
| Lat/Long: Field Screening: | Hole Diameter: 2ft / Total Depth: 4' |

Comments:

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Depth (ft. bgs.) | Sample Depth | Soil/Rock Type | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| dry | <128 | 3.7 | N | | 0–1 | 1' | S | Sand trace Clay MG |
| dry | <128 | 1.2 | N | | 1–2 | 2' | S | Sand trace Clay PG-MG |
| dry | <128 | 1.2 | N | | 2–3 | 3' | S | Sand trace Clay PG-MG |
| dry | <128 | 2.6 | N | | 3–4 | 4' | S | Sand trace Clay PG-MG |



ATTACHMENT 3: PHOTOGRAPHIC LOG

# PHOTOGRAPHIC LOG



**Photograph 1:** Active drilling operations onsite, view NW.



**Photograph 2 (2RP-2267):** On pad fluid prior to recovery, Northeast Area.



**Photograph 3 (2RP-3524):** Release extent on pad, Southwest Area.



**Photograph 4 (2RP-3662):** Repair at excavation extent, Southwest Area.

JRU DI-1
Eddy County, New Mexico
Photographs Taken Between December 2017 to Present



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**Photograph 5 (2RP-3662):** Excavation extent, Southwest Area.



**Photograph 6 (2RP-4528):** Release location, Southwest Area.



**Photograph 7 (2RP-4625):** Release flow path, Northwest Area.



**Photograph 8 (2RP-4625):** Release extent, Northwest Area.



**Photograph 9 (2RP-4756):** Release extent, Southwest Area.



**Photograph 10 (NRM2002747253):** Release point/pad surface, West Area.




**Photograph 11 (NRM1935433078):** Release extent prior to fluid recovery, Southwest Area.



**Photograph 12 (NRM2002747253):** Release extent in pasture, West Area.



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ATTACHMENT 4: ANALYTICAL DATA

# ANALYTICAL REPORT

January 03, 2018

## XTO Energy- Delaware Division

| | |
|---|---|
| Sample Delivery Group: | L959669 |
| Samples Received: | 12/23/2017 |
| Project Number: | 30-015-41074 |
| Description: | Confirmation Soil Samples |
| Site: | JRU-21 SWD-1 |
| Report To: | Kyle Littrell<br>6401 N Holiday Hill Rd<br>Suite 200<br>Midland, TX 79707 |

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## SS-1 L959669-01 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 10:50 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058629 | 1 | 01/02/18 08:57 | 01/02/18 09:06 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 01:20 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 13:21 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 20:26 | ACM |

## SS-2 L959669-02 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 10:55 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058629 | 1 | 01/02/18 08:57 | 01/02/18 09:06 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 01:46 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 13:43 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 21:10 | ACM |

## SS-3 L959669-03 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 10:57 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 01:54 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 14:05 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 21:24 | ACM |

## SS-4 L959669-04 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 10:59 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 20 | 12/26/17 21:16 | 12/27/17 02:03 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 14:27 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 21:38 | ACM |

## SS-5 L959669-05 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 11:01 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 02:11 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 14:49 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 21:53 | ACM |

## SS-6 L959669-06 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 11:04 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 02:37 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057763 | 1 | 12/27/17 13:20 | 12/28/17 15:11 | JAH |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058555 | 1 | 01/01/18 21:46 | 01/02/18 22:07 | ACM |

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Technical Service Representative

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 83.6 | | 1 | 01/02/2018 09:06 | WG1058629 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 201 | | 12.0 | 1 | 12/27/2017 01:20 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000598 | 1 | 12/28/2017 13:21 | WG1057763 |
| Toluene | ND | | 0.00598 | 1 | 12/28/2017 13:21 | WG1057763 |
| Ethylbenzene | ND | | 0.000598 | 1 | 12/28/2017 13:21 | WG1057763 |
| Total Xylene | ND | | 0.00179 | 1 | 12/28/2017 13:21 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.120 | 1 | 12/28/2017 13:21 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.4* | | *77.0-120* | | *12/28/2017 13:21* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *98.6* | | *75.0-128* | | *12/28/2017 13:21* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | J3 J6 | 4.79 | 1 | 01/02/2018 20:26 | WG1058555 |
| C28-C40 Oil Range | ND | | 4.79 | 1 | 01/02/2018 20:26 | WG1058555 |
| *(S) o-Terphenyl* | *61.0* | | *18.0-148* | | *01/02/2018 20:26* | WG1058555 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 95.8 | | 1 | 01/02/2018 09:06 | WG1058629 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 61.0 | | 10.4 | 1 | 12/27/2017 01:46 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000522 | 1 | 12/28/2017 13:43 | WG1057763 |
| Toluene | ND | | 0.00522 | 1 | 12/28/2017 13:43 | WG1057763 |
| Ethylbenzene | ND | | 0.000522 | 1 | 12/28/2017 13:43 | WG1057763 |
| Total Xylene | ND | | 0.00157 | 1 | 12/28/2017 13:43 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.104 | 1 | 12/28/2017 13:43 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.1* | | *77.0-120* | | *12/28/2017 13:43* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *98.0* | | *75.0-128* | | *12/28/2017 13:43* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.17 | 1 | 01/02/2018 21:10 | WG1058555 |
| C28-C40 Oil Range | ND | | 4.17 | 1 | 01/02/2018 21:10 | WG1058555 |
| *(S) o-Terphenyl* | *44.9* | | *18.0-148* | | *01/02/2018 21:10* | WG1058555 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 97.3 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 40.2 | | 10.3 | 1 | 12/27/2017 01:54 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000514 | 1 | 12/28/2017 14:05 | WG1057763 |
| Toluene | ND | | 0.00514 | 1 | 12/28/2017 14:05 | WG1057763 |
| Ethylbenzene | ND | | 0.000514 | 1 | 12/28/2017 14:05 | WG1057763 |
| Total Xylene | ND | | 0.00154 | 1 | 12/28/2017 14:05 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.103 | 1 | 12/28/2017 14:05 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.9* | | *77.0-120* | | *12/28/2017 14:05* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *98.1* | | *75.0-128* | | *12/28/2017 14:05* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.11 | 1 | 01/02/2018 21:24 | WG1058555 |
| C28-C40 Oil Range | ND | | 4.11 | 1 | 01/02/2018 21:24 | WG1058555 |
| *(S) o-Terphenyl* | *18.1* | | *18.0-148* | | *01/02/2018 21:24* | WG1058555 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 91.9 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 9470 | | 218 | 20 | 12/27/2017 02:03 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000544 | 1 | 12/28/2017 14:27 | WG1057763 |
| Toluene | ND | | 0.00544 | 1 | 12/28/2017 14:27 | WG1057763 |
| Ethylbenzene | ND | | 0.000544 | 1 | 12/28/2017 14:27 | WG1057763 |
| Total Xylene | ND | | 0.00163 | 1 | 12/28/2017 14:27 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.109 | 1 | 12/28/2017 14:27 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.9* | | *77.0-120* | | *12/28/2017 14:27* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *97.9* | | *75.0-128* | | *12/28/2017 14:27* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 10.6 | | 4.35 | 1 | 01/02/2018 21:38 | WG1058555 |
| C28-C40 Oil Range | 8.32 | | 4.35 | 1 | 01/02/2018 21:38 | WG1058555 |
| *(S) o-Terphenyl* | *55.8* | | *18.0-148* | | *01/02/2018 21:38* | WG1058555 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 77.4 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 211 | | 12.9 | 1 | 12/27/2017 02:11 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000646 | 1 | 12/28/2017 14:49 | WG1057763 |
| Toluene | ND | | 0.00646 | 1 | 12/28/2017 14:49 | WG1057763 |
| Ethylbenzene | ND | | 0.000646 | 1 | 12/28/2017 14:49 | WG1057763 |
| Total Xylene | ND | | 0.00194 | 1 | 12/28/2017 14:49 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.129 | 1 | 12/28/2017 14:49 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.6* | | *77.0-120* | | *12/28/2017 14:49* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *99.2* | | *75.0-128* | | *12/28/2017 14:49* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 5.17 | 1 | 01/02/2018 21:53 | WG1058555 |
| C28-C40 Oil Range | ND | | 5.17 | 1 | 01/02/2018 21:53 | WG1058555 |
| *(S) o-Terphenyl* | *52.1* | | *18.0-148* | | *01/02/2018 21:53* | WG1058555 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 94.1 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 66.7 | | 10.6 | 1 | 12/27/2017 02:37 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000552 | | 0.000531 | 1 | 12/28/2017 15:11 | WG1057763 |
| Toluene | ND | | 0.00531 | 1 | 12/28/2017 15:11 | WG1057763 |
| Ethylbenzene | ND | | 0.000531 | 1 | 12/28/2017 15:11 | WG1057763 |
| Total Xylene | ND | | 0.00159 | 1 | 12/28/2017 15:11 | WG1057763 |
| TPH (GC/FID) Low Fraction | ND | | 0.106 | 1 | 12/28/2017 15:11 | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.7* | | *77.0-120* | | *12/28/2017 15:11* | WG1057763 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *98.0* | | *75.0-128* | | *12/28/2017 15:11* | WG1057763 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 12.8 | | 4.25 | 1 | 01/02/2018 22:07 | WG1058555 |
| C28-C40 Oil Range | 14.6 | | 4.25 | 1 | 01/02/2018 22:07 | WG1058555 |
| *(S) o-Terphenyl* | *55.2* | | *18.0-148* | | *01/02/2018 22:07* | WG1058555 |

# QUALITY CONTROL SUMMARY

L959669-01,02

Total Solids by Method 2540 G-2011

ONE LAB.

## Method Blank (MB)

(MB) R3277134-1 01/02/18 09:06

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.002 | | | |

## L959664-01 Original Sample (OS) • Duplicate (DUP)

(OS) L959664-01 01/02/18 09:06 • (DUP) R3277134-3 01/02/18 09:06

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 94.6 | 94.2 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3277134-2 01/02/18 09:06

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

# QUALITY CONTROL SUMMARY

L959669-03,04,05,06

Total Solids by Method 2540 G-2011

ONE LAB.

## Method Blank (MB)

(MB) R3277132-1 01/02/18 08:25

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0 | | | |

## L959669-06 Original Sample (OS) • Duplicate (DUP)

(OS) L959669-06 01/02/18 08:25 • (DUP) R3277132-3 01/02/18 08:25

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 94.1 | 93.7 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3277132-2 01/02/18 08:25

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3275848-1 12/26/17 23:29

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Chloride | U | | 0.795 | 10.0 |

## L959663-01 Original Sample (OS) • Duplicate (DUP)

(OS) L959663-01 12/27/17 00:29 • (DUP) R3275848-4 12/27/17 00:37

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 242 | 245 | 1 | 1.31 | | 20 |

## L959672-09 Original Sample (OS) • Duplicate (DUP)

(OS) L959672-09 12/27/17 04:10 • (DUP) R3275848-7 12/27/17 04:19

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 63.5 | 62.2 | 1 | 2.06 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275848-2 12/26/17 23:38 • (LCSD) R3275848-3 12/26/17 23:46

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Chloride | 200 | 197 | 197 | 98.7 | 98.5 | 90-110 | | | 0.198 | 20 |

## L959669-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959669-05 12/27/17 02:11 • (MS) R3275848-5 12/27/17 02:20 • (MSD) R3275848-6 12/27/17 02:28

| Analyte | Spike Amount (dry) | Original Result (dry) | MS Result (dry) | MSD Result (dry) | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Chloride | 646 | 211 | 845 | 914 | 98.2 | 109 | 1 | 80-120 | | | 7.76 | 20 |

## Method Blank (MB)

(MB) R3276845-5 12/28/17 11:25

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Benzene | U | | 0.000120 | 0.000500 |
| Toluene | 0.000246 | J | 0.000150 | 0.00500 |
| Ethylbenzene | 0.000114 | J | 0.000110 | 0.000500 |
| Total Xylene | U | | 0.000460 | 0.00150 |
| TPH (GC/FID) Low Fraction | 0.0218 | J | 0.0217 | 0.100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.8* | | | *77.0-120* |
| *(S) a,a,a-Trifluorotoluene(PID)* | *102* | | | *75.0-128* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276845-1 12/28/17 09:34 • (LCSD) R3276845-2 12/28/17 09:56

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0450 | 0.0430 | 90.0 | 86.0 | 71.0-121 | | | 4.65 | 20 |
| Toluene | 0.0500 | 0.0464 | 0.0434 | 92.8 | 86.9 | 72.0-120 | | | 6.56 | 20 |
| Ethylbenzene | 0.0500 | 0.0482 | 0.0455 | 96.5 | 90.9 | 76.0-121 | | | 5.94 | 20 |
| Total Xylene | 0.150 | 0.143 | 0.133 | 95.2 | 88.9 | 75.0-124 | | | 6.81 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *94.4* | *94.7* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *99.7* | *99.9* | *75.0-128* | | | | |

## Laboratory Control Sample (LCS)

(LCS) R3276845-3 12/28/17 10:18

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 4.92 | 89.4 | 70.0-136 | |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | *106* | *77.0-120* | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | *113* | *75.0-128* | |

## Laboratory Control Sample (LCS)

(LCS) R3276845-4 12/28/17 10:41

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 5.11 | 93.0 | 70.0-136 | |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | *107* | *77.0-120* | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | *118* | *75.0-128* | |

## L959663-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959663-04 12/28/17 12:36 • (MS) R3276845-6 12/28/17 18:08 • (MSD) R3276845-7 12/28/17 18:30

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0520 | ND | 0.00589 | 0.0225 | 10.8 | 42.8 | 1 | 10.0-146 | | J3 | 117 | 29 |
| Toluene | 0.0520 | ND | 0.00248 | 0.0152 | 3.96 | 28.4 | 1 | 10.0-143 | J6 | J3 | 144 | 30 |
| Ethylbenzene | 0.0520 | ND | 0.00139 | 0.00995 | 2.43 | 18.9 | 1 | 10.0-147 | J6 | J3 | 151 | 31 |
| Total Xylene | 0.156 | ND | 0.00453 | 0.0288 | 2.39 | 17.9 | 1 | 10.0-149 | J6 | J3 J6 | 146 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *84.9* | *87.0* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *90.5* | *92.5* | | *75.0-128* | | | | |

## L959663-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959663-04 12/28/17 12:36 • (MS) R3276845-8 12/28/17 18:52 • (MSD) R3276845-9 12/28/17 19:14

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.72 | ND | 0.683 | 0.983 | 10.4 | 15.7 | 1 | 10.0-147 | | J3 | 36.1 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *89.8* | *89.9* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *94.0* | *93.9* | | *75.0-128* | | | | |

## Method Blank (MB)

(MB) R3277017-1 01/02/18 10:47

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *61.3* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3277017-2 01/02/18 11:03 • (LCSD) R3277017-3 01/02/18 11:19

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 38.0 | 32.7 | 63.4 | 54.5 | 50.0-150 | | | 14.9 | 20 |
| *(S) o-Terphenyl* | | | | *66.5* | *61.1* | *18.0-148* | | | | |

## L959669-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959669-01 01/02/18 20:26 • (MS) R3277017-4 01/02/18 20:41 • (MSD) R3277017-5 01/02/18 20:55

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 71.8 | ND | 47.7 | 35.3 | 61.8 | 44.6 | 1 | 50.0-150 | | J3 J6 | 29.7 | 20 |
| *(S) o-Terphenyl* | | | | | *60.2* | *49.0* | | *18.0-148* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

| | |
|---|---|
| (dry) | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils]. |
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| RDL (dry) | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nevada | TN-03-2002-34 |
| Alaska | UST-080 | New Hampshire | 2975 |
| Arizona | AZ0612 | New Jersey–NELAP | TN002 |
| Arkansas | 88-0469 | New Mexico | TN00003 |
| California | 01157CA | New York | 11742 |
| Colorado | TN00003 | North Carolina | Env375 |
| Connecticut | PH-0197 | North Carolina [1] | DW21704 |
| Florida | E87487 | North Carolina [2] | 41 |
| Georgia | NELAP | North Dakota | R-140 |
| Georgia [1] | 923 | Ohio–VAP | CL0069 |
| Idaho | TN00003 | Oklahoma | 9915 |
| Illinois | 200008 | Oregon | TN200002 |
| Indiana | C-TN-01 | Pennsylvania | 68-02979 |
| Iowa | 364 | Rhode Island | 221 |
| Kansas | E-10277 | South Carolina | 84004 |
| Kentucky [1] | 90010 | South Dakota | n/a |
| Kentucky [2] | 16 | Tennessee [14] | 2006 |
| Louisiana | AI30792 | Texas | T 104704245-07-TX |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | 6157585858 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 109 |
| Minnesota | 047-999-395 | Washington | C1915 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |
| Nebraska | NE-OS-15-05 | | |

## Third Party & Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | S-67674 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



LT Environmental

Billing Information: XTO

Pres Chk

Analysis / Container / Preservative: BTEX - EPA Method 8021 | TPH - EPA Method 8015 | Chloride - EPA Method 300.1

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES

Report to: Kyle Littrell

Email To: Kyle_Littrell@xtoenergy.com, Abaker@LTenv.com

Project Description: Confirmation Soil Samples

City/State Collected: NM

Phone: 1-970-317-1867 Fax:

Client Project # 30-015-41074

Lab Project #

Collected by (print): Aaron Williamson

Site/Facility ID # JRU-21 SWD-1 (2RP-2267)

P.O. # 012917050

Collected by (signature): Immediately Packed on Ice: N ___ Y ✓

Rush? (Lab MUST Be Notified) ___ Same Day ✓ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Lab # L959664 G103

Acctnum: XTOMTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | BTEX | TPH | Chloride | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-1 | Grab | SS | 1' | 12/20/17 | 10:50 | 1 | ✓ | ✓ | ✓ | | -01 |
| SS-2 | Grab | SS | 6" | 12/20/17 | 10:55 | 1 | ✓ | ✓ | ✓ | | 02 |
| SS-3 | Grab | SS | 6" | 12/20/17 | 10:57 | 1 | ✓ | ✓ | ✓ | | 03 |
| SS-4 | Grab | SS | 6" | 12/20/17 | 10:59 | 1 | ✓ | ✓ | ✓ | | 04 |
| SS-5 | Grab | SS | 1' | 12/20/17 | 11:01 | 1 | ✓ | ✓ | ✓ | | 05 |
| SS-6 | Grab | SS | 6" | 12/20/17 | 11:04 | 1 | ✓ | ✓ | ✓ | | 06 |

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH ___ Temp ___ Flow ___ Other ___

Samples returned via: ___ UPS ___ FedEx ___ Courier RSW

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact: ___NP ___Y ___N

COC Signed/Accurate: ___Y ___N

Bottles arrive intact: ___Y ___N

Correct bottles used: ___Y ___N

Sufficient volume sent: ___Y ___N

If Applicable

VOA Zero Headspace: ___Y ___N

Preservation Correct/Checked: ___Y ___N

| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 12/20/17 | 19:23 | |
| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) |
| | 12/21/17 | 14:30 | Southwest Airlines |
| Relinquished by: (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | |

Trip Blank Received: Yes / No (NCF) HCL / MeOH TBR

Temp: 4.5 °C Bottles Received: 6

Date: 12-21-17 Time: 0945

If preservation required by Login: Date/Time

Hold:

Condition: (NCF) / OK

Received by OCD: 12/11/2020 11:30:06 AM

Jeremy W. Watkins

# ESC Lab Sciences
# Non-Conformance Form

| Login #: L959669 | Client: XTORNM | Date: 12/23/17 | Evaluated by: Jeremy |
|---|---|---|---|

**Non-Conformance (check applicable items)**

| | Sample Integrity | | Chain of Custody Clarification | | |
|---|---|---|---|---|---|
| | Parameter(s) past holding time | x | Login Clarification Needed | | **If Broken Container:** |
| | Improper temperature | | Chain of custody is incomplete | | Insufficient packing material around container |
| | Improper container type | | Please specify Metals requested. | | Insufficient packing material inside cooler |
| | Improper preservation | | Please specify TCLP requested. | | Improper handling by carrier (FedEx / UPS / Courie |
| | Insufficient sample volume. | | Received additional samples not listed on coc. | | Sample was frozen |
| | Sample is biphasic. | | Sample ids on containers do not match ids on coc | | Container lid not intact |
| | Vials received with headspace. | | Trip Blank not received. | | **If no Chain of Custody:** |
| | Broken container | | Client did not "X" analysis. | | Received by: |
| | Broken container: | | Chain of Custody is missing | | Date/Time: |
| | Sufficient sample remains | | | | Temp./Cont. Rec./pH: |
| | | | | | Carrier: |
| | | | | | Tracking# |

**Login Comments: What TPH?**

| Client informed by: | | Call | | Email | | Voice Mail | | Date: 12/23/17 | Time: 1:39pm |
|---|---|---|---|---|---|---|---|---|---|
| TSR Initials: NM | Client Contact: | | | | | | | | |

**Login Instructions:**

These are logged correctly.

**This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.**

# Analytical Report 616285

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**JRU DI 1 SWD**

**07-MAR-19**

Collected By: Client





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

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

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

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

07-MAR-19

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

Reference: XENCO Report No(s): **616285**
**JRU DI 1 SWD**
Project Address: Delaware Basin

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 616285. 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. 616285 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 616285

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 02-25-19 15:01 | 4 ft | 616285-001 |
| PH01A | S | 02-26-19 09:40 | 16 ft | 616285-002 |

# CASE NARRATIVE

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

***Project Name: JRU DI 1 SWD***

Project ID:
Work Order Number(s): *616285*

Report Date: *07-MAR-19*
Date Received: *03/04/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3081309 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 616285

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 07-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616285-001 | | 616285-002 | | | | | |
| | ***Field Id:*** | PH01 | | PH01A | | | | | |
| | ***Depth:*** | 4- ft | | 16- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Feb-25-19 15:01 | | Feb-26-19 09:40 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-06-19 08:30 | | Mar-06-19 08:30 | | | | | |
| | ***Analyzed:*** | Mar-06-19 21:39 | | Mar-06-19 21:58 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00403 | 0.00403 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | | | | |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-04-19 16:15 | | Mar-04-19 16:15 | | | | | |
| | ***Analyzed:*** | Mar-04-19 23:54 | | Mar-05-19 10:22 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 2970 | 99.6 | 6410 | 99.2 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 15:00 | | Mar-04-19 15:00 | | | | | |
| | ***Analyzed:*** | Mar-05-19 05:09 | | Mar-05-19 05:29 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 616285

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616285-001 | Date Collected: | 02.25.19 15.01 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2970** | 99.6 | mg/kg | 03.04.19 23.54 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 05.09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 05.09 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 05.09 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 05.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.05.19 05.09 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.05.19 05.09 | |

# Certificate of Analytical Results 616285

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616285-001 | Date Collected: | 02.25.19 15.01 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.06.19 21.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.06.19 21.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 03.06.19 21.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.06.19 21.39 | |

# Certificate of Analytical Results 616285

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616285-002 | Date Collected: | 02.26.19 09.40 | Sample Depth: | 16 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6410** | 99.2 | mg/kg | 03.05.19 10.22 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 05.29 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 05.29 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 05.29 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 05.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.05.19 05.29 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.05.19 05.29 | |

# Certificate of Analytical Results 616285

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616285-002 | Date Collected: | 02.26.19 09.40 | Sample Depth: | 16 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 03.06.19 21.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 03.06.19 21.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.06.19 21.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 03.06.19 21.58 | |

# 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 616285



## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081120 Matrix: Solid Date Prep: 03.04.19
MB Sample Id: 7672922-1-BLK LCS Sample Id: 7672922-1-BKS LCSD Sample Id: 7672922-1-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 | 253 | 101 | 254 | 102 | 90-110 | 0 | 20 | mg/kg | 03.04.19 22:43 | |

**Analytical Method:** **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081120 Matrix: Soil Date Prep: 03.04.19
Parent Sample Id: 616199-002 MS Sample Id: 616199-002 S MSD Sample Id: 616199-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 7.10 | 248 | 283 | 111 | 302 | 119 | 90-110 | 6 | 20 | mg/kg | 03.04.19 23:02 | X |

**Analytical Method:** **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081120 Matrix: Soil Date Prep: 03.04.19
Parent Sample Id: 616199-003 MS Sample Id: 616199-003 S MSD Sample Id: 616199-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 56.5 | 250 | 310 | 101 | 310 | 101 | 90-110 | 0 | 20 | mg/kg | 03.05.19 00:33 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3081091 Matrix: Solid Date Prep: 03.04.19
MB Sample Id: 7672927-1-BLK LCS Sample Id: 7672927-1-BKS LCSD Sample Id: 7672927-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 955 | 96 | 978 | 98 | 70-135 | 2 | 20 | mg/kg | 03.04.19 21:43 | |
| Diesel Range Organics (DRO) | 8.39 | 1000 | 966 | 97 | 972 | 97 | 70-135 | 1 | 20 | mg/kg | 03.04.19 21:43 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 83 | | 120 | | 120 | | 70-135 | % | 03.04.19 21:43 |
| o-Terphenyl | 85 | | 106 | | 114 | | 70-135 | % | 03.04.19 21:43 |

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

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

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

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

# QC Summary 616285

## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3081091 | Matrix: Soil | Date Prep: 03.04.19
Parent Sample Id: 616286-021 | MS Sample Id: 616286-021 S | MSD Sample Id: 616286-021 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) | <8.00 | 1000 | 962 | 96 | 952 | 95 | 70-135 | 1 | 20 | mg/kg | 03.04.19 22:44 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 962 | 96 | 970 | 97 | 70-135 | 1 | 20 | mg/kg | 03.04.19 22:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 117 | | 116 | | 70-135 | % | 03.04.19 22:44 |
| o-Terphenyl | 106 | | 103 | | 70-135 | % | 03.04.19 22:44 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3081309 | Matrix: Solid | Date Prep: 03.06.19
MB Sample Id: 7673081-1-BLK | LCS Sample Id: 7673081-1-BKS | LCSD Sample Id: 7673081-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.126 | 126 | 0.126 | 126 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| Toluene | <0.000457 | 0.100 | 0.102 | 102 | 0.102 | 102 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| Ethylbenzene | <0.000566 | 0.100 | 0.0941 | 94 | 0.0943 | 94 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| m,p-Xylenes | <0.00102 | 0.200 | 0.190 | 95 | 0.191 | 96 | 70-130 | 1 | 35 | mg/kg | 03.06.19 14:08 | |
| o-Xylene | <0.000345 | 0.100 | 0.0918 | 92 | 0.0922 | 92 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 118 | | 114 | | 114 | | 70-130 | % | 03.06.19 14:08 |
| 4-Bromofluorobenzene | 98 | | 100 | | 100 | | 70-130 | % | 03.06.19 14:08 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3081309 | Matrix: Soil | Date Prep: 03.06.19
Parent Sample Id: 616537-001 | MS Sample Id: 616537-001 S | MSD Sample Id: 616537-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000388 | 0.101 | 0.0675 | 67 | 0.0826 | 83 | 70-130 | 20 | 35 | mg/kg | 03.06.19 14:46 | X |
| Toluene | <0.000459 | 0.101 | 0.0560 | 55 | 0.0674 | 67 | 70-130 | 18 | 35 | mg/kg | 03.06.19 14:46 | X |
| Ethylbenzene | <0.000569 | 0.101 | 0.0512 | 51 | 0.0609 | 61 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |
| m,p-Xylenes | <0.00102 | 0.202 | 0.105 | 52 | 0.124 | 62 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |
| o-Xylene | <0.000347 | 0.101 | 0.0497 | 49 | 0.0590 | 59 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 116 | | 116 | | 70-130 | % | 03.06.19 14:46 |
| 4-Bromofluorobenzene | 106 | | 104 | | 70-130 | % | 03.06.19 14:46 |

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

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

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

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

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# Chain of Custody

Work Order No: 6116285

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

**Work Order Comments**

Program: UST/PST ☐ RP ☐ rownfields ☐ C ☐ perfund ☐
State of Project:
Reporting:Level II ☐ evel III ☐ ST/UST ☐ RP ☐ vel IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 SWD | Turn Around | |
| Project Number: | | Routine | ☒ |
| P.O. Number: | 2RP-2267 | Rush: | |
| Sampler's Name: | Robert M. | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temperature (°C): | 3.1/3.0 | Temp Blank: | Yes (No) |
| Received Intact: | (Yes) No | Thermometer ID | R8 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |
| | | Wet Ice: | (Yes) No |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| PH01 | S | 02/25/19 | 1501 | 4' | 1 | X | X | X | discrete |
| PH01A | S | 02/26/19 | 0940 | 16' | 1 | X | X | X | discrete |

ANALYSIS REQUEST

Work Order Notes

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

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

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

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 03/01/19@1480 | | | 03/04/19 730 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

TRK#: 7746 0226 2368

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

Page 13 of 15




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

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

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 03/04/2019 07:30:00 AM

**Work Order #:** 616285

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

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 3 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **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:** Katie Lowe Date: 03/04/2019

**Checklist reviewed by:** Jessica Kramer Date: 03/04/2019

Jessica Kramer

# Analytical Report 616286

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**JRU DI 1 SWD**

**11-MAR-19**

Collected By: Client

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

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

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

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

11-MAR-19

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

Reference: XENCO Report No(s): **616286**
**JRU DI 1 SWD**
Project Address: Delaware Basin

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 616286. 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. 616286 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 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH02 | S | 02-26-19 10:25 | 3 ft | 616286-001 |
| PH02A | S | 02-26-19 10:30 | 4 ft | 616286-002 |
| PH03 | S | 02-26-19 11:05 | 1 ft | 616286-003 |
| PH03A | S | 02-26-19 11:30 | 5.5 ft | 616286-004 |
| PH4 | S | 02-26-19 13:00 | 1 ft | 616286-005 |
| PH04A | S | 02-26-19 13:15 | 4 ft | 616286-006 |
| PH05 | S | 02-26-19 15:30 | 1 ft | 616286-007 |
| PH05A | S | 02-27-19 09:20 | 6 ft | 616286-008 |
| PH06 | S | 02-27-19 09:40 | 2 ft | 616286-009 |
| PH06A | S | 02-27-19 10:35 | 5 ft | 616286-010 |
| PH07 | S | 02-27-19 10:00 | 2 ft | 616286-011 |
| PH07A | S | 02-27-19 10:05 | 4 ft | 616286-012 |
| PH08 | S | 02-27-19 10:30 | 1 ft | 616286-013 |
| PH08A | S | 02-27-19 10:30 | 4 ft | 616286-014 |
| PH09 | S | 02-27-19 13:10 | 3 ft | 616286-015 |
| PH09A | S | 02-27-19 13:30 | 11 ft | 616286-016 |
| PH10 | S | 02-27-19 13:50 | 1 ft | 616286-017 |
| PH10A | S | 02-27-19 13:50 | 4 ft | 616286-018 |
| PH11 | S | 02-27-19 14:50 | 1 ft | 616286-019 |
| PH11A | S | 02-27-19 14:55 | 5 ft | 616286-020 |
| PH12 | S | 02-28-19 09:30 | 2 ft | 616286-021 |
| PH12A | S | 02-28-19 09:30 | 4 ft | 616286-022 |
| PH13 | S | 02-28-19 10:00 | 3 ft | 616286-023 |
| PH13A | S | 02-28-19 10:00 | 4 ft | 616286-024 |
| PH14 | S | 02-28-19 10:35 | 2 ft | 616286-025 |
| PH14A | S | 02-28-19 10:35 | 4 ft | 616286-026 |
| PH15 | S | 02-28-19 11:15 | 1 ft | 616286-027 |
| PH15A | S | 02-28-19 11:15 | 4 ft | 616286-028 |
| PH16 | S | 02-28-19 13:00 | 2 ft | 616286-029 |
| PH16A | S | 02-28-19 13:00 | 4 ft | 616286-030 |
| PH17 | S | 02-28-19 13:40 | 3 ft | 616286-031 |
| PH17A | S | 02-28-19 13:40 | 4 ft | 616286-032 |
| PH18 | S | 02-28-19 13:20 | 3 ft | 616286-033 |
| PH18A | S | 02-28-19 13:20 | 4 ft | 616286-034 |
| PH19 | S | 02-28-19 14:00 | 1 ft | 616286-035 |
| PH19A | S | 02-28-19 14:00 | 4 ft | 616286-036 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI 1 SWD***

Project ID:
Work Order Number(s): *616286*

Report Date: *11-MAR-19*
Date Received: *03/04/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3081227 Inorganic Anions by EPA 300
Lab Sample ID 616286-034 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 616286-033, -034, -035, -036.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3081309 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3081630 BTEX by EPA 8021B
Lab Sample ID 616286-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 616286-005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3081753 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 616286-027,616286-033,616286-028.

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-001 | | 616286-002 | | 616286-003 | | 616286-004 | | 616286-005 | | 616286-006 | |
| | ***Field Id:*** | PH02 | | PH02A | | PH03 | | PH03A | | PH4 | | PH04A | |
| | ***Depth:*** | 3- ft | | 4- ft | | 1- ft | | 5.5- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-26-19 10:25 | | Feb-26-19 10:30 | | Feb-26-19 11:05 | | Feb-26-19 11:30 | | Feb-26-19 13:00 | | Feb-26-19 13:15 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-06-19 08:30 | | Mar-06-19 08:30 | | Mar-06-19 08:30 | | Mar-06-19 08:30 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | |
| | ***Analyzed:*** | Mar-06-19 22:17 | | Mar-06-19 22:36 | | Mar-06-19 22:55 | | Mar-06-19 23:14 | | Mar-08-19 16:32 | | Mar-08-19 17:47 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00396 | 0.00396 | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | |
| | ***Analyzed:*** | Mar-05-19 10:08 | | Mar-05-19 00:13 | | Mar-05-19 00:20 | | Mar-05-19 00:46 | | Mar-05-19 00:52 | | Mar-05-19 01:12 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 41.1 | 4.99 | 61.5 | 50.0 | 102 | 5.00 | 490 | 50.0 | 713 | 50.0 | 998 | 50.4 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | |
| | ***Analyzed:*** | Mar-04-19 12:56 | | Mar-04-19 13:56 | | Mar-04-19 14:17 | | Mar-04-19 14:41 | | Mar-04-19 15:01 | | Mar-04-19 15:21 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-007 | | 616286-008 | | 616286-009 | | 616286-010 | | 616286-011 | | 616286-012 | |
| | ***Field Id:*** | PH05 | | PH05A | | PH06 | | PH06A | | PH07 | | PH07A | |
| | ***Depth:*** | 1- ft | | 6- ft | | 2- ft | | 5- ft | | 2- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-26-19 15:30 | | Feb-27-19 09:20 | | Feb-27-19 09:40 | | Feb-27-19 10:35 | | Feb-27-19 10:00 | | Feb-27-19 10:05 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | |
| | ***Analyzed:*** | Mar-08-19 18:06 | | Mar-08-19 18:25 | | Mar-08-19 18:44 | | Mar-08-19 19:03 | | Mar-08-19 19:22 | | Mar-08-19 19:41 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00403 | 0.00403 | <0.00399 | 0.00399 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | | Mar-04-19 16:15 | |
| | ***Analyzed:*** | Mar-05-19 01:18 | | Mar-05-19 01:25 | | Mar-05-19 01:31 | | Mar-05-19 01:38 | | Mar-05-19 01:44 | | Mar-05-19 01:51 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 469 | 49.9 | 781 | 49.6 | 1790 | 50.0 | 2560 | 99.0 | 185 | 50.0 | 519 | 50.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | |
| | ***Analyzed:*** | Mar-04-19 15:41 | | Mar-04-19 16:01 | | Mar-04-19 16:21 | | Mar-04-19 16:41 | | Mar-04-19 17:41 | | Mar-04-19 18:02 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-013 | | 616286-014 | | 616286-015 | | 616286-016 | | 616286-017 | | 616286-018 | |
| | ***Field Id:*** | PH08 | | PH08A | | PH09 | | PH09A | | PH10 | | PH10A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 3- ft | | 11- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-27-19 10:30 | | Feb-27-19 10:30 | | Feb-27-19 13:10 | | Feb-27-19 13:30 | | Feb-27-19 13:50 | | Feb-27-19 13:50 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | |
| | ***Analyzed:*** | Mar-08-19 20:55 | | Mar-08-19 21:14 | | Mar-08-19 21:33 | | Mar-08-19 21:52 | | Mar-08-19 22:11 | | Mar-08-19 22:30 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | |
| | ***Analyzed:*** | Mar-05-19 11:21 | | Mar-05-19 11:27 | | Mar-05-19 11:34 | | Mar-05-19 11:40 | | Mar-05-19 11:59 | | Mar-05-19 12:06 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 117 | 24.8 | 869 | 49.7 | 610 | 50.0 | 899 | 49.5 | 315 | 49.9 | 274 | 49.9 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 10:00 | |
| | ***Analyzed:*** | Mar-04-19 18:22 | | Mar-04-19 18:42 | | Mar-04-19 19:02 | | Mar-04-19 19:22 | | Mar-04-19 19:42 | | Mar-04-19 20:02 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | 18.6 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | 18.6 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-019 | | 616286-020 | | 616286-021 | | 616286-022 | | 616286-023 | | 616286-024 | |
| | ***Field Id:*** | PH11 | | PH11A | | PH12 | | PH12A | | PH13 | | PH13A | |
| | ***Depth:*** | 1- ft | | 5- ft | | 2- ft | | 4- ft | | 3- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-27-19 14:50 | | Feb-27-19 14:55 | | Feb-28-19 09:30 | | Feb-28-19 09:30 | | Feb-28-19 10:00 | | Feb-28-19 10:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 12:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | |
| | ***Analyzed:*** | Mar-08-19 22:49 | | Mar-08-19 23:08 | | Mar-08-19 23:27 | | Mar-08-19 23:46 | | Mar-09-19 02:35 | | Mar-09-19 02:54 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00401 | 0.00401 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | |
| | ***Analyzed:*** | Mar-05-19 12:12 | | Mar-05-19 12:19 | | Mar-05-19 14:16 | | Mar-05-19 14:22 | | Mar-05-19 14:29 | | Mar-05-19 14:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 486 | 49.9 | 229 | 49.9 | 31.4 | 5.00 | 52.2 | 4.98 | 7.68 | 4.97 | 5.10 | 5.00 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 10:00 | | Mar-04-19 10:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | |
| | ***Analyzed:*** | Mar-04-19 20:22 | | Mar-04-19 20:42 | | Mar-04-19 22:24 | | Mar-04-19 23:24 | | Mar-04-19 23:45 | | Mar-05-19 00:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-025 | | 616286-026 | | 616286-027 | | 616286-028 | | 616286-029 | | 616286-030 | |
| | ***Field Id:*** | PH14 | | PH14A | | PH15 | | PH15A | | PH16 | | PH16A | |
| | ***Depth:*** | 2- ft | | 4- ft | | 1- ft | | 4- ft | | 2- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-28-19 10:35 | | Feb-28-19 10:35 | | Feb-28-19 11:15 | | Feb-28-19 11:15 | | Feb-28-19 13:00 | | Feb-28-19 13:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | |
| | ***Analyzed:*** | Mar-09-19 03:13 | | Mar-09-19 03:32 | | Mar-09-19 03:51 | | Mar-09-19 04:10 | | Mar-09-19 04:29 | | Mar-09-19 04:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 08:30 | |
| | ***Analyzed:*** | Mar-05-19 14:42 | | Mar-05-19 14:48 | | Mar-05-19 12:32 | | Mar-05-19 14:55 | | Mar-05-19 11:01 | | Mar-05-19 13:43 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.95 | 4.95 | 29.7 | 4.99 | 22.8 | 4.96 | <4.96 | 4.96 | 9.07 | 4.99 | 76.0 | 49.5 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | |
| | ***Analyzed:*** | Mar-05-19 00:25 | | Mar-05-19 00:45 | | Mar-05-19 01:05 | | Mar-05-19 01:26 | | Mar-05-19 01:46 | | Mar-05-19 02:06 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 616286

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1 SWD

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

**Date Received in Lab:** Mon Mar-04-19 07:30 am
**Report Date:** 11-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 616286-031 | | 616286-032 | | 616286-033 | | 616286-034 | | 616286-035 | | 616286-036 | |
| | ***Field Id:*** | PH17 | | PH17A | | PH18 | | PH18A | | PH19 | | PH19A | |
| | ***Depth:*** | 3- ft | | 4- ft | | 3- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-28-19 13:40 | | Feb-28-19 13:40 | | Feb-28-19 13:20 | | Feb-28-19 13:20 | | Feb-28-19 14:00 | | Feb-28-19 14:00 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | | Mar-08-19 14:00 | |
| | ***Analyzed:*** | Mar-09-19 05:07 | | Mar-09-19 05:26 | | Mar-09-19 06:40 | | Mar-09-19 06:59 | | Mar-09-19 07:18 | | Mar-09-19 07:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | 0.00364 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | 0.00469 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | 0.0109 | 0.00400 | <0.00403 | 0.00403 | <0.00398 | 0.00398 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | 0.00507 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | 0.0160 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | 0.0243 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-05-19 08:30 | | Mar-05-19 08:30 | | Mar-05-19 10:45 | | Mar-05-19 10:45 | | Mar-05-19 10:45 | | Mar-05-19 10:45 | |
| | ***Analyzed:*** | Mar-05-19 15:01 | | Mar-06-19 12:40 | | Mar-05-19 12:14 | | Mar-05-19 14:46 | | Mar-06-19 10:26 | | Mar-06-19 10:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.95 | 4.95 | 9.15 | 4.95 | 492 | 4.99 | 617 | 4.95 | <4.95 | 4.95 | 14.5 | 4.95 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | | Mar-04-19 15:00 | |
| | ***Analyzed:*** | Mar-05-19 03:07 | | Mar-05-19 03:27 | | Mar-05-19 03:47 | | Mar-05-19 04:08 | | Mar-05-19 04:28 | | Mar-05-19 04:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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



Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-001 | Date Collected: | 02.26.19 10.25 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **41.1** | 4.99 | mg/kg | 03.05.19 10.08 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 12.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 12.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 12.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 12.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 03.04.19 12.56 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 03.04.19 12.56 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-001 | Date Collected: | 02.26.19 10.25 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 03.06.19 22.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.06.19 22.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 03.06.19 22.17 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-002 | Date Collected: | 02.26.19 10.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **61.5** | 50.0 | mg/kg | 03.05.19 00.13 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 13.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 13.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 13.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 13.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.04.19 13.56 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.04.19 13.56 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-002 | Date Collected: | 02.26.19 10.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 03.06.19 22.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 03.06.19 22.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 03.06.19 22.36 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.06.19 22.36 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

Sample Id: **PH03** Matrix: Soil Date Received:03.04.19 07.30

Lab Sample Id: 616286-003 Date Collected: 02.26.19 11.05 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.04.19 16.15 Basis: Wet Weight

Seq Number: 3081120

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **102** | 5.00 | mg/kg | 03.05.19 00.20 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.04.19 10.00 Basis: Wet Weight

Seq Number: 3081090

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 14.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 14.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 14.17 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 14.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.04.19 14.17 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.04.19 14.17 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-003 | Date Collected: | 02.26.19 11.05 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.06.19 22.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.06.19 22.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 03.06.19 22.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.06.19 22.55 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-004 | Date Collected: | 02.26.19 11.30 | Sample Depth: | 5.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **490** | 50.0 | mg/kg | 03.05.19 00.46 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 14.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 14.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 14.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 14.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 03.04.19 14.41 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 03.04.19 14.41 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-004 | Date Collected: | 02.26.19 11.30 | Sample Depth: | 5.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.06.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 03.06.19 23.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.06.19 23.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.06.19 23.14 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 03.06.19 23.14 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH4** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-005 | Date Collected: | 02.26.19 13.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **713** | 50.0 | mg/kg | 03.05.19 00.52 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 15.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 15.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 15.01 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 15.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 15.01 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 03.04.19 15.01 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH4** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-005 | Date Collected: | 02.26.19 13.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.08.19 16.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.08.19 16.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.08.19 16.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 03.08.19 16.32 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-006 | Date Collected: | 02.26.19 13.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **998** | 50.4 | mg/kg | 03.05.19 01.12 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 15.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 15.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 15.21 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 15.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 03.04.19 15.21 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 03.04.19 15.21 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-006 | Date Collected: | 02.26.19 13.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.08.19 17.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.08.19 17.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 17.47 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 03.08.19 17.47 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-007 | Date Collected: | 02.26.19 15.30 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **469** | 49.9 | mg/kg | 03.05.19 01.18 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 15.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 15.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 15.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 15.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.04.19 15.41 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.04.19 15.41 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-007 | Date Collected: | 02.26.19 15.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.08.19 18.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.08.19 18.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 18.06 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.08.19 18.06 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-008 | Date Collected: | 02.27.19 09.20 | Sample Depth: | 6 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **781** | 49.6 | mg/kg | 03.05.19 01.25 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 16.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 16.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 16.01 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 16.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 03.04.19 16.01 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 03.04.19 16.01 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-008 | Date Collected: | 02.27.19 09.20 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.08.19 18.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.08.19 18.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 03.08.19 18.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 18.25 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-009 | Date Collected: | 02.27.19 09.40 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1790** | 50.0 | mg/kg | 03.05.19 01.31 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 16.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 16.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 16.21 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 16.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 16.21 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.04.19 16.21 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-009 | Date Collected: | 02.27.19 09.40 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.08.19 18.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 18.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 18.44 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.08.19 18.44 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-010 | Date Collected: | 02.27.19 10.35 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2560** | 99.0 | mg/kg | 03.05.19 01.38 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 16.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 16.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 16.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 16.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 16.41 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.04.19 16.41 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-010 | Date Collected: | 02.27.19 10.35 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 03.08.19 19.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 03.08.19 19.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 19.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 03.08.19 19.03 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-011 | Date Collected: | 02.27.19 10.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.04.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3081120 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **185** | 50.0 | mg/kg | 03.05.19 01.44 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 03.04.19 17.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 03.04.19 17.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 03.04.19 17.41 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 03.04.19 17.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 03.04.19 17.41 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 03.04.19 17.41 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-011 | Date Collected: | 02.27.19 10.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 03.08.19 19.22 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 19.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 19.22 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.08.19 19.22 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

Sample Id: **PH07A** Matrix: Soil Date Received:03.04.19 07.30

Lab Sample Id: 616286-012 Date Collected: 02.27.19 10.05 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.04.19 16.15 Basis: Wet Weight

Seq Number: 3081120

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **519** | 50.0 | mg/kg | 03.05.19 01.51 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.04.19 10.00 Basis: Wet Weight

Seq Number: 3081090

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 18.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 18.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 18.02 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 18.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 18.02 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 03.04.19 18.02 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-012 | Date Collected: | 02.27.19 10.05 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.08.19 19.41 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.08.19 19.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 19.41 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 03.08.19 19.41 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-013 | Date Collected: | 02.27.19 10.30 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **117** | 24.8 | mg/kg | 03.05.19 11.21 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 18.22 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **18.6** | 15.0 | mg/kg | 03.04.19 18.22 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 18.22 | U | 1 |
| **Total TPH** | PHC635 | **18.6** | 15.0 | mg/kg | 03.04.19 18.22 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 03.04.19 18.22 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 03.04.19 18.22 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-013 | Date Collected: | 02.27.19 10.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 03.08.19 20.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 20.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 03.08.19 20.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.08.19 20.55 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-014 | Date Collected: | 02.27.19 10.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **869** | 49.7 | mg/kg | 03.05.19 11.27 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 03.04.19 18.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 03.04.19 18.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 03.04.19 18.42 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 03.04.19 18.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.04.19 18.42 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.04.19 18.42 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-014 | Date Collected: | 02.27.19 10.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 03.08.19 21.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 03.08.19 21.14 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.08.19 21.14 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-015 | Date Collected: | 02.27.19 13.10 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **610** | 50.0 | mg/kg | 03.05.19 11.34 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 19.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 19.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 19.02 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 19.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 03.04.19 19.02 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.04.19 19.02 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-015 | Date Collected: | 02.27.19 13.10 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.08.19 21.33 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.08.19 21.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 03.08.19 21.33 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 21.33 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-016 | Date Collected: | 02.27.19 13.30 | Sample Depth: | 11 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **899** | 49.5 | mg/kg | 03.05.19 11.40 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 19.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 19.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 19.22 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 19.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 19.22 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 03.04.19 19.22 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-016 | Date Collected: | 02.27.19 13.30 | Sample Depth: | 11 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 03.08.19 21.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 21.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 03.08.19 21.52 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 21.52 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-017 | Date Collected: | 02.27.19 13.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **315** | 49.9 | mg/kg | 03.05.19 11.59 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 19.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 19.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 19.42 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 19.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.04.19 19.42 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.04.19 19.42 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-017 | Date Collected: | 02.27.19 13.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 03.08.19 22.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 03.08.19 22.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 03.08.19 22.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 22.11 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-018 | Date Collected: | 02.27.19 13.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **274** | 49.9 | mg/kg | 03.05.19 12.06 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 20.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 20.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 20.02 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 20.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 20.02 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 03.04.19 20.02 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-018 | Date Collected: | 02.27.19 13.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.08.19 22.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 22.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 03.08.19 22.30 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 22.30 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-019 | Date Collected: | 02.27.19 14.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **486** | 49.9 | mg/kg | 03.05.19 12.12 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 20.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 20.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 20.22 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 20.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.04.19 20.22 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.04.19 20.22 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-019 | Date Collected: | 02.27.19 14.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.08.19 22.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.08.19 22.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.08.19 22.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 03.08.19 22.49 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-020 | Date Collected: | 02.27.19 14.55 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **229** | 49.9 | mg/kg | 03.05.19 12.19 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3081090 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 20.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 20.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 20.42 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 20.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 03.04.19 20.42 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.04.19 20.42 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-020 | Date Collected: | 02.27.19 14.55 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.08.19 23.08 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.08.19 23.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 03.08.19 23.08 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.08.19 23.08 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-021 | Date Collected: | 02.28.19 09.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **31.4** | 5.00 | mg/kg | 03.05.19 14.16 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 22.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 22.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 22.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 22.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.04.19 22.24 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 03.04.19 22.24 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-021 | Date Collected: | 02.28.19 09.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 03.08.19 23.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.08.19 23.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 03.08.19 23.27 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.08.19 23.27 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-022 | Date Collected: | 02.28.19 09.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **52.2** | 4.98 | mg/kg | 03.05.19 14.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 23.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 23.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 23.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 23.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 03.04.19 23.24 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 03.04.19 23.24 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-022 | Date Collected: | 02.28.19 09.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3081630 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.08.19 23.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.08.19 23.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 03.08.19 23.46 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 03.08.19 23.46 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-023 | Date Collected: | 02.28.19 10.00 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **7.68** | 4.97 | mg/kg | 03.05.19 14.29 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.04.19 23.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.04.19 23.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.04.19 23.45 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.04.19 23.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.04.19 23.45 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.04.19 23.45 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-023 | Date Collected: | 02.28.19 10.00 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 03.09.19 02.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.09.19 02.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 03.09.19 02.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.09.19 02.35 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-024 | Date Collected: | 02.28.19 10.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.10** | 5.00 | mg/kg | 03.05.19 14.35 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 00.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 00.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 00.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 00.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.05.19 00.05 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.05.19 00.05 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-024 | Date Collected: | 02.28.19 10.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 03.09.19 02.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 03.09.19 02.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.09.19 02.54 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.09.19 02.54 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

Sample Id: **PH14** Matrix: Soil Date Received:03.04.19 07.30

Lab Sample Id: 616286-025 Date Collected: 02.28.19 10.35 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.05.19 08.30 Basis: Wet Weight

Seq Number: 3081224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 03.05.19 14.42 | U | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.04.19 15.00 Basis: Wet Weight

Seq Number: 3081091

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 00.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 00.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 00.25 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 00.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 03.05.19 00.25 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 03.05.19 00.25 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-025 | Date Collected: | 02.28.19 10.35 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.09.19 03.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 03.09.19 03.13 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.09.19 03.13 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-026 | Date Collected: | 02.28.19 10.35 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **29.7** | 4.99 | mg/kg | 03.05.19 14.48 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 00.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 00.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 00.45 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 00.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.05.19 00.45 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 03.05.19 00.45 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-026 | Date Collected: | 02.28.19 10.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.09.19 03.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.09.19 03.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 03.09.19 03.32 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.09.19 03.32 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-027 | Date Collected: | 02.28.19 11.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.8** | 4.96 | mg/kg | 03.05.19 12.32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 01.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 01.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 01.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 01.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 03.05.19 01.05 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.05.19 01.05 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-027 | Date Collected: | 02.28.19 11.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 03.09.19 03.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.09.19 03.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 03.09.19 03.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 138 | % | 70-130 | 03.09.19 03.51 | ** |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-028 | Date Collected: | 02.28.19 11.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 03.05.19 14.55 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 01.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 01.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 01.26 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 01.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.05.19 01.26 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 03.05.19 01.26 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-028 | Date Collected: | 02.28.19 11.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.09.19 04.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.09.19 04.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 03.09.19 04.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 138 | % | 70-130 | 03.09.19 04.10 | ** |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-029 | Date Collected: | 02.28.19 13.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.07** | 4.99 | mg/kg | 03.05.19 11.01 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 01.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 01.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 01.46 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 01.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 03.05.19 01.46 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.05.19 01.46 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-029 | Date Collected: | 02.28.19 13.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.09.19 04.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 03.09.19 04.29 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.09.19 04.29 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-030 | Date Collected: | 02.28.19 13.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **76.0** | 49.5 | mg/kg | 03.05.19 13.43 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 02.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 02.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 02.06 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 02.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 03.05.19 02.06 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.05.19 02.06 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-030 | Date Collected: | 02.28.19 13.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.09.19 04.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.09.19 04.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 03.09.19 04.48 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 03.09.19 04.48 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-031 | Date Collected: | 02.28.19 13.40 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 03.05.19 15.01 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 03.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 03.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 03.07 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 03.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.05.19 03.07 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 03.05.19 03.07 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-031 | Date Collected: | 02.28.19 13.40 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.09.19 05.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 03.09.19 05.07 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 03.09.19 05.07 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-032 | Date Collected: | 02.28.19 13.40 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3081224 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.15** | 4.95 | mg/kg | 03.06.19 12.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 03.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 03.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 03.27 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 03.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 03.05.19 03.27 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 03.05.19 03.27 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-032 | Date Collected: | 02.28.19 13.40 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.09.19 05.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.09.19 05.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 03.09.19 05.26 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 03.09.19 05.26 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-033 | Date Collected: | 02.28.19 13.20 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 10.45 | Basis: | Wet Weight |
| Seq Number: | 3081227 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **492** | 4.99 | mg/kg | 03.05.19 12.14 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 03.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 03.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 03.47 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 03.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.05.19 03.47 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 03.05.19 03.47 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-033 | Date Collected: | 02.28.19 13.20 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.09.19 06.40 | U | 1 |
| **Toluene** | 108-88-3 | **0.00364** | 0.00200 | mg/kg | 03.09.19 06.40 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.00469** | 0.00200 | mg/kg | 03.09.19 06.40 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0109** | 0.00400 | mg/kg | 03.09.19 06.40 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00507** | 0.00200 | mg/kg | 03.09.19 06.40 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0160** | 0.00200 | mg/kg | 03.09.19 06.40 | | 1 |
| **Total BTEX** | | **0.0243** | 0.00200 | mg/kg | 03.09.19 06.40 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 03.09.19 06.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 198 | % | 70-130 | 03.09.19 06.40 | ** |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-034 | Date Collected: | 02.28.19 13.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 10.45 | Basis: | Wet Weight |
| Seq Number: | 3081227 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **617** | 4.95 | mg/kg | 03.05.19 14.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 04.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 04.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 04.08 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 04.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 03.05.19 04.08 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 03.05.19 04.08 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-034 | Date Collected: | 02.28.19 13.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 03.09.19 06.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 03.09.19 06.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 03.09.19 06.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 03.09.19 06.59 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-035 | Date Collected: | 02.28.19 14.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 10.45 | Basis: | Wet Weight |
| Seq Number: | 3081227 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 03.06.19 10.26 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 04.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 04.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 04.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 04.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 03.05.19 04.28 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 03.05.19 04.28 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-035 | Date Collected: | 02.28.19 14.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.09.19 07.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.09.19 07.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 03.09.19 07.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.09.19 07.18 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-036 | Date Collected: | 02.28.19 14.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.05.19 10.45 | Basis: | Wet Weight |
| Seq Number: | 3081227 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.5** | 4.95 | mg/kg | 03.06.19 10.37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 03.04.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3081091 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 03.05.19 04.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 03.05.19 04.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 03.05.19 04.48 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 03.05.19 04.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 03.05.19 04.48 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 03.05.19 04.48 | |

# Certificate of Analytical Results 616286

## LT Environmental, Inc., Arvada, CO

JRU DI 1 SWD

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 03.04.19 07.30 |
| Lab Sample Id: | 616286-036 | Date Collected: | 02.28.19 14.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3081753 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.09.19 07.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.09.19 07.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 03.09.19 07.37 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 03.09.19 07.37 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 616286

## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081120 — Matrix: Solid — Date Prep: 03.04.19
MB Sample Id: 7672922-1-BLK — LCS Sample Id: 7672922-1-BKS — LCSD Sample Id: 7672922-1-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 | 253 | 101 | 254 | 102 | 90-110 | 0 | 20 | mg/kg | 03.04.19 22:43 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081224 — Matrix: Solid — Date Prep: 03.05.19
MB Sample Id: 7672929-1-BLK — LCS Sample Id: 7672929-1-BKS — LCSD Sample Id: 7672929-1-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 | 249 | 100 | 259 | 104 | 90-110 | 4 | 20 | mg/kg | 03.05.19 10:48 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081227 — Matrix: Solid — Date Prep: 03.05.19
MB Sample Id: 7672964-1-BLK — LCS Sample Id: 7672964-1-BKS — LCSD Sample Id: 7672964-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 260 | 104 | 262 | 105 | 90-110 | 1 | 20 | mg/kg | 03.05.19 11:52 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081120 — Matrix: Soil — Date Prep: 03.04.19
Parent Sample Id: 616199-002 — MS Sample Id: 616199-002 S — MSD Sample Id: 616199-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 7.10 | 248 | 283 | 111 | 302 | 119 | 90-110 | 6 | 20 | mg/kg | 03.04.19 23:02 | X |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081120 — Matrix: Soil — Date Prep: 03.04.19
Parent Sample Id: 616199-003 — MS Sample Id: 616199-003 S — MSD Sample Id: 616199-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 56.5 | 250 | 310 | 101 | 310 | 101 | 90-110 | 0 | 20 | mg/kg | 03.05.19 00:33 | |

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

# QC Summary 616286



## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081224 — Matrix: Soil — Date Prep: 03.05.19
Parent Sample Id: 616286-027 — MS Sample Id: 616286-027 S — MSD Sample Id: 616286-027 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 22.8 | 248 | 270 | 100 | 281 | 104 | 90-110 | 4 | 20 | mg/kg | 03.05.19 12:38 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081224 — Matrix: Soil — Date Prep: 03.05.19
Parent Sample Id: 616286-029 — MS Sample Id: 616286-029 S — MSD Sample Id: 616286-029 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 9.07 | 250 | 258 | 100 | 257 | 99 | 90-110 | 0 | 20 | mg/kg | 03.05.19 11:08 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081227 — Matrix: Soil — Date Prep: 03.05.19
Parent Sample Id: 616286-033 — MS Sample Id: 616286-033 S — MSD Sample Id: 616286-033 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 492 | 250 | 768 | 110 | 764 | 109 | 90-110 | 1 | 20 | mg/kg | 03.05.19 12:25 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081227 — Matrix: Soil — Date Prep: 03.05.19
Parent Sample Id: 616286-034 — MS Sample Id: 616286-034 S — MSD Sample Id: 616286-034 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 617 | 248 | 897 | 113 | 879 | 106 | 90-110 | 2 | 20 | mg/kg | 03.05.19 14:56 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3081090 — Matrix: Solid — Date Prep: 03.04.19
MB Sample Id: 7672926-1-BLK — LCS Sample Id: 7672926-1-BKS — LCSD Sample Id: 7672926-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 928 | 93 | 951 | 95 | 70-135 | 2 | 20 | mg/kg | 03.04.19 12:16 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 942 | 94 | 930 | 93 | 70-135 | 1 | 20 | mg/kg | 03.04.19 12:16 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 81 | | 124 | | 125 | | 70-135 | % | 03.04.19 12:16 |
| o-Terphenyl | 83 | | 114 | | 119 | | 70-135 | % | 03.04.19 12:16 |

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

# QC Summary 616286



## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3081091 — Matrix: Solid — Date Prep: 03.04.19
MB Sample Id: 7672927-1-BLK — LCS Sample Id: 7672927-1-BKS — LCSD Sample Id: 7672927-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 955 | 96 | 978 | 98 | 70-135 | 2 | 20 | mg/kg | 03.04.19 21:43 | |
| Diesel Range Organics (DRO) | 8.39 | 1000 | 966 | 97 | 972 | 97 | 70-135 | 1 | 20 | mg/kg | 03.04.19 21:43 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 83 | | 120 | | 120 | | 70-135 | % | 03.04.19 21:43 |
| o-Terphenyl | 85 | | 106 | | 114 | | 70-135 | % | 03.04.19 21:43 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3081090 — Matrix: Soil — Date Prep: 03.04.19
Parent Sample Id: 616286-001 — MS Sample Id: 616286-001 S — MSD Sample Id: 616286-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.99 | 999 | 1030 | 103 | 1030 | 103 | 70-135 | 0 | 20 | mg/kg | 03.04.19 13:16 | |
| Diesel Range Organics (DRO) | 14.5 | 999 | 1060 | 105 | 1080 | 107 | 70-135 | 2 | 20 | mg/kg | 03.04.19 13:16 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 127 | | 126 | | 70-135 | % | 03.04.19 13:16 |
| o-Terphenyl | 108 | | 108 | | 70-135 | % | 03.04.19 13:16 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3081091 — Matrix: Soil — Date Prep: 03.04.19
Parent Sample Id: 616286-021 — MS Sample Id: 616286-021 S — MSD Sample Id: 616286-021 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) | <8.00 | 1000 | 962 | 96 | 952 | 95 | 70-135 | 1 | 20 | mg/kg | 03.04.19 22:44 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 962 | 96 | 970 | 97 | 70-135 | 1 | 20 | mg/kg | 03.04.19 22:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 117 | | 116 | | 70-135 | % | 03.04.19 22:44 |
| o-Terphenyl | 106 | | 103 | | 70-135 | % | 03.04.19 22:44 |

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

# QC Summary 616286

## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081309 — Matrix: Solid — Date Prep: 03.06.19
MB Sample Id: 7673081-1-BLK — LCS Sample Id: 7673081-1-BKS — LCSD Sample Id: 7673081-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.126 | 126 | 0.126 | 126 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| Toluene | <0.000457 | 0.100 | 0.102 | 102 | 0.102 | 102 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| Ethylbenzene | <0.000566 | 0.100 | 0.0941 | 94 | 0.0943 | 94 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |
| m,p-Xylenes | <0.00102 | 0.200 | 0.190 | 95 | 0.191 | 96 | 70-130 | 1 | 35 | mg/kg | 03.06.19 14:08 | |
| o-Xylene | <0.000345 | 0.100 | 0.0918 | 92 | 0.0922 | 92 | 70-130 | 0 | 35 | mg/kg | 03.06.19 14:08 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 118 | | 114 | | 114 | | 70-130 | % | 03.06.19 14:08 |
| 4-Bromofluorobenzene | 98 | | 100 | | 100 | | 70-130 | % | 03.06.19 14:08 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081630 — Matrix: Solid — Date Prep: 03.08.19
MB Sample Id: 7673258-1-BLK — LCS Sample Id: 7673258-1-BKS — LCSD Sample Id: 7673258-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.101 | 101 | 0.0992 | 99 | 70-130 | 2 | 35 | mg/kg | 03.08.19 14:40 | |
| Toluene | <0.000457 | 0.100 | 0.0898 | 90 | 0.0888 | 89 | 70-130 | 1 | 35 | mg/kg | 03.08.19 14:40 | |
| Ethylbenzene | <0.000566 | 0.100 | 0.0858 | 86 | 0.0850 | 85 | 70-130 | 1 | 35 | mg/kg | 03.08.19 14:40 | |
| m,p-Xylenes | <0.00102 | 0.200 | 0.171 | 86 | 0.171 | 85 | 70-130 | 0 | 35 | mg/kg | 03.08.19 14:40 | |
| o-Xylene | <0.000345 | 0.100 | 0.0860 | 86 | 0.0854 | 85 | 70-130 | 1 | 35 | mg/kg | 03.08.19 14:40 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 106 | | 106 | | 70-130 | % | 03.08.19 14:40 |
| 4-Bromofluorobenzene | 102 | | 96 | | 99 | | 70-130 | % | 03.08.19 14:40 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081753 — Matrix: Solid — Date Prep: 03.08.19
MB Sample Id: 7673343-1-BLK — LCS Sample Id: 7673343-1-BKS — LCSD Sample Id: 7673343-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000387 | 0.101 | 0.104 | 103 | 0.108 | 109 | 70-130 | 4 | 35 | mg/kg | 03.09.19 00:42 | |
| Toluene | <0.000458 | 0.101 | 0.0932 | 92 | 0.0955 | 96 | 70-130 | 2 | 35 | mg/kg | 03.09.19 00:42 | |
| Ethylbenzene | <0.000568 | 0.101 | 0.0900 | 89 | 0.0916 | 92 | 70-130 | 2 | 35 | mg/kg | 03.09.19 00:42 | |
| m,p-Xylenes | <0.00102 | 0.201 | 0.181 | 90 | 0.183 | 92 | 70-130 | 1 | 35 | mg/kg | 03.09.19 00:42 | |
| o-Xylene | <0.000346 | 0.101 | 0.0894 | 89 | 0.0912 | 92 | 70-130 | 2 | 35 | mg/kg | 03.09.19 00:42 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 104 | | 104 | | 70-130 | % | 03.09.19 00:42 |
| 4-Bromofluorobenzene | 101 | | 97 | | 98 | | 70-130 | % | 03.09.19 00:42 |

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 616286

## LT Environmental, Inc.

JRU DI 1 SWD

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081309 — Matrix: Soil — Date Prep: 03.06.19
Parent Sample Id: 616537-001 — MS Sample Id: 616537-001 S — MSD Sample Id: 616537-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000388 | 0.101 | 0.0675 | 67 | 0.0826 | 83 | 70-130 | 20 | 35 | mg/kg | 03.06.19 14:46 | X |
| Toluene | <0.000459 | 0.101 | 0.0560 | 55 | 0.0674 | 67 | 70-130 | 18 | 35 | mg/kg | 03.06.19 14:46 | X |
| Ethylbenzene | <0.000569 | 0.101 | 0.0512 | 51 | 0.0609 | 61 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |
| m,p-Xylenes | <0.00102 | 0.202 | 0.105 | 52 | 0.124 | 62 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |
| o-Xylene | <0.000347 | 0.101 | 0.0497 | 49 | 0.0590 | 59 | 70-130 | 17 | 35 | mg/kg | 03.06.19 14:46 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 116 | | 116 | | 70-130 | % | 03.06.19 14:46 |
| 4-Bromofluorobenzene | 106 | | 104 | | 70-130 | % | 03.06.19 14:46 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081630 — Matrix: Soil — Date Prep: 03.08.19
Parent Sample Id: 616286-005 — MS Sample Id: 616286-005 S — MSD Sample Id: 616286-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000381 | 0.0990 | 0.0835 | 84 | 0.0639 | 64 | 70-130 | 27 | 35 | mg/kg | 03.08.19 15:18 | X |
| Toluene | <0.000451 | 0.0990 | 0.0472 | 48 | 0.0391 | 39 | 70-130 | 19 | 35 | mg/kg | 03.08.19 15:18 | X |
| Ethylbenzene | <0.000559 | 0.0990 | 0.0319 | 32 | 0.0281 | 28 | 70-130 | 13 | 35 | mg/kg | 03.08.19 15:18 | X |
| m,p-Xylenes | <0.00100 | 0.198 | 0.0653 | 33 | 0.0586 | 29 | 70-130 | 11 | 35 | mg/kg | 03.08.19 15:18 | X |
| o-Xylene | <0.000341 | 0.0990 | 0.0364 | 37 | 0.0318 | 32 | 70-130 | 13 | 35 | mg/kg | 03.08.19 15:18 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 110 | | 111 | | 70-130 | % | 03.08.19 15:18 |
| 4-Bromofluorobenzene | 104 | | 106 | | 70-130 | % | 03.08.19 15:18 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081753 — Matrix: Soil — Date Prep: 03.08.19
Parent Sample Id: 616286-023 — MS Sample Id: 616286-023 S — MSD Sample Id: 616286-023 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0996 | 0.0986 | 99 | 0.0876 | 88 | 70-130 | 12 | 35 | mg/kg | 03.09.19 01:20 | |
| Toluene | <0.00199 | 0.0996 | 0.0879 | 88 | 0.0794 | 80 | 70-130 | 10 | 35 | mg/kg | 03.09.19 01:20 | |
| Ethylbenzene | <0.000563 | 0.0996 | 0.0837 | 84 | 0.0759 | 76 | 70-130 | 10 | 35 | mg/kg | 03.09.19 01:20 | |
| m,p-Xylenes | <0.00101 | 0.199 | 0.168 | 84 | 0.154 | 77 | 70-130 | 9 | 35 | mg/kg | 03.09.19 01:20 | |
| o-Xylene | <0.000343 | 0.0996 | 0.0831 | 83 | 0.0766 | 77 | 70-130 | 8 | 35 | mg/kg | 03.09.19 01:20 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 105 | | 70-130 | % | 03.09.19 01:20 |
| 4-Bromofluorobenzene | 103 | | 103 | | 70-130 | % | 03.09.19 01:20 |

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

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# Chain of Custody

Work Order No: 6162886

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 SWD | Turn Around | |
| ~~Project Number:~~ | | Routine | ☑ |
| P.O. Number: | 2RP-2267 | Rush: | |
| Sampler's Name: | Robert M. | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 3.1/3.0 | Thermometer ID | R8 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 | |
| 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 8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| PH02 | S | 02/26/19 | 1025 | 3' | 1 | X | X | X | discrete |
| PH02 A | | | 1030 | 4' | | X | X | X | |
| PH03 | | | 1105 | 1' | | X | X | X | |
| PH03 A | | | 1130 | 5.5' | | X | X | X | |
| PH04 | | | 1300 | 1' | | X | X | X | |
| PH04 A | | | 1315 | 4' | | X | X | X | |
| PH05 | | | 1530 | 1' | | X | X | X | |
| PH05 A | | 02/27/19 | 0920 | 6' | | X | X | X | |
| PH06 | | | 0940 | 2' | | X | X | X | |
| PH06 A | | | 1035 | 5' | | X | X | X | |

**Work Order Notes**

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

**ANALYSIS REQUEST**

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

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

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 03/01/19 @14:45 | 2 | | 03/04/19 730 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

TRK#: 7746 0226 2368

Received by OCD: 12/11/2020 11:30:06 AM

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# Chain of Custody

Work Order No: 6116286

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 SWD | Turn Around | |
| Project Number: | | Routine | ☑ |
| P.O. Number: | 2RP-2267 | Rush: | |
| Sampler's Name: | Robert M. | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 3.1/3.0 | Thermometer ID | R8 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 | |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| PH07 | S | 02/27/19 | 1005 | 2' | 1 | X | X | X | discrete |
| PH07 A | | | 1005 | 4' | | X | X | X | |
| PH08 | | | 1030 | 1' | | X | X | X | |
| PH08 A | | | 1030 | 4' | | X | X | X | |
| PH09 | | | 1310 | 3' | | X | X | X | |
| PH09 A | | | 1330 | 11' | | X | X | X | |
| PH10 | | | 1350 | 1' | | X | X | X | |
| PH10 A | | | 1350 | 4' | | X | X | X | |
| PH11 | | | 1450 | 1' | | X | X | X | |
| PH11 A | | | 1455 | 5' | | X | X | X | |

**Work Order Notes**

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

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

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

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| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Robert Mc | Taylor Day | 03/01/19 @ 1445 | 2 Taylor Day | Kelly Hall | 03/04/19 730 |
| 3 | | | 4 | | |
| 5 | | | 6 | | |



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# Chain of Custody

Work Order No: 6116286

XENCO LABORATORIES

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Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | | Turn Around | |
| Project Number: | | Routine ☐ | |
| P.O. Number: | | Rush: | |
| Sampler's Name: | | Due Date: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 3.1/3.0 | Thermometer ID | R8 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

**ANALYSIS REQUEST**

**Work Order Notes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| PH17 | S | 02/28/19 | 0930 | 2' | 1 | X | X | X | discrete |
| PH12A | | | 0930 | 4' | | X | X | X | |
| PH13 | | | 1000 | 3' | | X | X | X | |
| PH13A | | | 1000 | 4' | | X | X | X | |
| PH14 | | | 1035 | 2' | | X | X | X | |
| PH14A | | | 1035 | 4' | | X | X | X | |
| PH15 | | | 1115 | 1' | | X | X | X | |
| PH15A | | | 1115 | 4' | | X | X | X | |
| PH16 | | | 1300 | 2' | | X | X | X | |
| PH16A | | | 1300 | 4' | | X | X | X | |

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

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

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 03/01/19 @ 14:45 | 2 | | 03/04/19 730 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 6/162786

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: | Adrian Baker | Bill to: (if different) | Kyle Littrel |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO - Energy |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad NM |
| Phone: | 432.704.5178 | Email: | |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 SWD | Turn Around | |
| Project Number: | | Routine | ☑ |
| P.O. Number: | 2RP - 2267 | Rush: | |
| Sampler's Name: | Robert M. | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 3.4/3.0 | Thermometer ID | R8 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 | |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH17 | S | 02/28/19 | 1340 | 3' | 1 | X | X | X |
| PH17A | | | 1340 | 4' | | X | X | X |
| PH18 | | | 1320 | 3' | | X | X | X |
| PH18A | | | 1320 | 4' | | X | X | X |
| PH19 | | | 1400 | 1' | | X | X | X |
| PH19A | | | 1400 | 4' | | X | X | X |

ANALYSIS REQUEST

**Work Order Notes**

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

**Sample Comments**

discrete

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

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

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| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Robert Muff | Josh Rita | 03/01/19 @ 1445 | 2 Josh Rita | J Kramer | 03/04/19 730 |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM

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

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

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 03/04/2019 07:30:00 AM

**Work Order #:** 616286

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

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 3 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **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:** Katie Lowe Date: 03/04/2019

**Checklist reviewed by:** Jessica Kramer Date: 03/04/2019

Jessica Kramer

# Analytical Report 645681

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU -21-SWD-1**

**012917050**

**11-DEC-19**

Collected By: Client




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

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

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

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

11-DEC-19

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

Reference: XENCO Report No(s): **645681**
**JRU -21-SWD-1**
Project Address: Eddy County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645681. 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. 645681 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 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH01 | S | 12-09-19 09:43 | 2 ft | 645681-001 |
| BH01A | S | 12-09-19 09:56 | 4 ft | 645681-002 |
| BH02 | S | 12-09-19 10:11 | 2 ft | 645681-003 |
| BH02A | S | 12-09-19 10:18 | 4 ft | 645681-004 |
| BH03 | S | 12-09-19 10:29 | 2 ft | 645681-005 |
| BH03A | S | 12-09-19 10:38 | 4 ft | 645681-006 |
| BH04 | S | 12-09-19 10:49 | 2 ft | 645681-007 |
| BH04A | S | 12-09-19 10:59 | 4 ft | 645681-008 |
| BH05 | S | 12-09-19 11:09 | 2 ft | 645681-009 |
| BH05A | S | 12-09-19 11:20 | 4 ft | 645681-010 |
| BH06 | S | 12-09-19 11:30 | 2 ft | 645681-011 |
| BH06A | S | 12-09-19 11:44 | 4 ft | 645681-012 |
| BH07 | S | 12-09-19 12:48 | 2 ft | 645681-013 |
| BH07A | S | 12-09-19 13:06 | 4 ft | 645681-014 |

# CASE NARRATIVE

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

***Project Name: JRU -21-SWD-1***

Project ID: *012917050*
Work Order Number(s): *645681*

Report Date: *11-DEC-19*
Date Received: *12/10/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3110068 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 645681

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU -21-SWD-1

**Project Id:** 012917050
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 645681-001 | | 645681-002 | | 645681-003 | | 645681-004 | | 645681-005 | | 645681-006 | |
| | *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:* | Dec-09-19 09:43 | | Dec-09-19 09:56 | | Dec-09-19 10:11 | | Dec-09-19 10:18 | | Dec-09-19 10:29 | | Dec-09-19 10:38 | |
| **BTEX by EPA 8021B** | *Extracted:* | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | *Analyzed:* | Dec-10-19 14:14 | | Dec-10-19 14:32 | | Dec-10-19 14:49 | | Dec-10-19 15:06 | | Dec-10-19 15:24 | | Dec-10-19 15:41 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00393 | 0.00393 | <0.00396 | 0.00396 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00401 | 0.00401 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00197 | 0.00197 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | *Extracted:* | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | *Analyzed:* | Dec-10-19 12:45 | | Dec-10-19 13:14 | | Dec-10-19 13:20 | | Dec-10-19 13:25 | | Dec-10-19 13:31 | | Dec-10-19 13:48 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <9.98 | 9.98 | 75.1 | 9.88 | 186 | 49.9 | 281 | 9.92 | <9.94 | 9.94 | <9.96 | 9.96 |
| **TPH by SW8015 Mod** | *Extracted:* | Dec-10-19 11:00 | | Dec-10-19 11:00 | | Dec-10-19 11:00 | | Dec-10-19 11:00 | | Dec-10-19 11:00 | | Dec-10-19 11:00 | |
| | *Analyzed:* | Dec-10-19 16:21 | | Dec-10-19 16:41 | | Dec-10-19 16:41 | | Dec-10-19 17:02 | | Dec-10-19 17:02 | | Dec-10-19 17:22 | |
| | *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 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 |
| Total GRO-DRO | | <50.0 | 50.0 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 |
| Total TPH | | <50.0 | 50.0 | <49.9 | 49.9 | <50.2 | 50.2 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 645681

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU -21-SWD-1

**Project Id:** 012917050
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 645681-007 | | 645681-008 | | 645681-009 | | 645681-010 | | 645681-011 | | 645681-012 | |
| | ***Field Id:*** | BH04 | | BH04A | | BH05 | | BH05A | | BH06 | | BH06A | |
| | ***Depth:*** | 2- ft | | 4- ft | | 2- ft | | 4- ft | | 2- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-09-19 10:49 | | Dec-09-19 10:59 | | Dec-09-19 11:09 | | Dec-09-19 11:20 | | Dec-09-19 11:30 | | Dec-09-19 11:44 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | ***Analyzed:*** | Dec-10-19 15:59 | | Dec-10-19 16:16 | | Dec-10-19 16:33 | | Dec-10-19 16:51 | | Dec-10-19 18:00 | | Dec-10-19 18:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | ***Analyzed:*** | Dec-10-19 13:54 | | Dec-10-19 14:00 | | Dec-10-19 14:06 | | Dec-10-19 14:12 | | Dec-10-19 14:17 | | Dec-10-19 14:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.0 | 10.0 | 66.7 | 10.1 | <9.94 | 9.94 | 258 | 49.8 | 23.9 | 9.98 | <9.88 | 9.88 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Dec-10-19 11:00 | | Dec-10-19 11:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | |
| | ***Analyzed:*** | Dec-10-19 17:22 | | Dec-10-19 17:42 | | Dec-10-19 18:24 | | Dec-10-19 19:04 | | Dec-10-19 19:04 | | Dec-10-19 19:25 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Total GRO-DRO | | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |
| Total TPH | | <49.9 | 49.9 | <49.9 | 49.9 | <49.8 | 49.8 | <50.1 | 50.1 | <50.0 | 50.0 | <50.1 | 50.1 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 645681

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU -21-SWD-1

**Project Id:** 012917050
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 645681-013 | | 645681-014 | | | | | |
| | ***Field Id:*** | BH07 | | BH07A | | | | | |
| | ***Depth:*** | 2- ft | | 4- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Dec-09-19 12:48 | | Dec-09-19 13:06 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | | | | |
| | ***Analyzed:*** | Dec-10-19 18:35 | | Dec-10-19 18:52 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00396 | 0.00396 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | | | | |
| | ***Analyzed:*** | Dec-10-19 14:40 | | Dec-10-19 14:58 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 943 | 49.5 | 593 | 49.9 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Dec-10-19 16:00 | | Dec-10-19 16:00 | | | | | |
| | ***Analyzed:*** | Dec-10-19 19:25 | | Dec-10-19 19:45 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <50.2 | 50.2 | | | | |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <50.2 | 50.2 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <50.2 | 50.2 | | | | |
| Total GRO-DRO | | <50.1 | 50.1 | <50.2 | 50.2 | | | | |
| Total TPH | | <50.1 | 50.1 | <50.2 | 50.2 | | | | |

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Jessica Kramer
Project Assistant

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-001 | Date Collected: | 12.09.19 09.43 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.98 | 9.98 | mg/kg | 12.10.19 12.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 12.10.19 16.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 12.10.19 16.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 12.10.19 16.21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 12.10.19 16.21 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 12.10.19 16.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 12.10.19 16.21 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 12.10.19 16.21 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-001 | Date Collected: | 12.09.19 09.43 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 14.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 14.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 12.10.19 14.14 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 12.10.19 14.14 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-002 | Date Collected: | 12.09.19 09.56 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **75.1** | 9.88 | mg/kg | 12.10.19 13.14 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 16.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 16.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 16.41 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 16.41 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 16.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 12.10.19 16.41 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 12.10.19 16.41 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-002 | Date Collected: | 12.09.19 09.56 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |
| Toluene | 108-88-3 | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00393 | 0.00393 | mg/kg | 12.10.19 14.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |
| Total BTEX | | <0.00197 | 0.00197 | mg/kg | 12.10.19 14.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 12.10.19 14.32 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 12.10.19 14.32 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-003 | Date Collected: | 12.09.19 10.11 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **186** | 49.9 | mg/kg | 12.10.19 13.20 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 16.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 16.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 16.41 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 16.41 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 16.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 12.10.19 16.41 | |
| o-Terphenyl | 84-15-1 | 111 | % | 70-135 | 12.10.19 16.41 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-003 | Date Collected: | 12.09.19 10.11 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 12.10.19 14.49 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 12.10.19 14.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 12.10.19 14.49 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 14.49 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-004 | Date Collected: | 12.09.19 10.18 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **281** | 9.92 | mg/kg | 12.10.19 13.25 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 12.10.19 17.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 12.10.19 17.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 12.10.19 17.02 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 12.10.19 17.02 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 12.10.19 17.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 12.10.19 17.02 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 12.10.19 17.02 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-004 | Date Collected: | 12.09.19 10.18 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 15.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 12.10.19 15.06 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 15.06 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-005 | Date Collected: | 12.09.19 10.29 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 12.10.19 13.31 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 12.10.19 17.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 12.10.19 17.02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 12.10.19 17.02 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 12.10.19 17.02 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 12.10.19 17.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 12.10.19 17.02 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 12.10.19 17.02 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-005 | Date Collected: | 12.09.19 10.29 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 12.10.19 15.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 12.10.19 15.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 12.10.19 15.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 12.10.19 15.24 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-006 | Date Collected: | 12.09.19 10.38 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.96 | 9.96 | mg/kg | 12.10.19 13.48 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 12.10.19 17.22 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 12.10.19 17.22 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-006 | Date Collected: | 12.09.19 10.38 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 12.10.19 15.41 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 12.10.19 15.41 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 15.41 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-007 | Date Collected: | 12.09.19 10.49 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 12.10.19 13.54 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 17.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 12.10.19 17.22 | |
| o-Terphenyl | 84-15-1 | 110 | % | 70-135 | 12.10.19 17.22 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-007 | Date Collected: | 12.09.19 10.49 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 12.10.19 15.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 15.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 12.10.19 15.59 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 12.10.19 15.59 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-008 | Date Collected: | 12.09.19 10.59 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **66.7** | 10.1 | mg/kg | 12.10.19 14.00 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3110097 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 17.42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 17.42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 17.42 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 17.42 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 17.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 12.10.19 17.42 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 12.10.19 17.42 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-008 | Date Collected: | 12.09.19 10.59 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 12.10.19 16.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 12.10.19 16.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 12.10.19 16.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 12.10.19 16.16 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-009 | Date Collected: | 12.09.19 11.09 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.94 | 9.94 | mg/kg | 12.10.19 14.06 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 12.10.19 18.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 12.10.19 18.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 12.10.19 18.24 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 12.10.19 18.24 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 12.10.19 18.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 12.10.19 18.24 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 12.10.19 18.24 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-009 | Date Collected: | 12.09.19 11.09 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 12.10.19 16.33 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 12.10.19 16.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 12.10.19 16.33 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 12.10.19 16.33 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-010 | Date Collected: | 12.09.19 11.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **258** | 49.8 | mg/kg | 12.10.19 14.12 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 12.10.19 19.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 12.10.19 19.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 12.10.19 19.04 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 12.10.19 19.04 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 12.10.19 19.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 12.10.19 19.04 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 12.10.19 19.04 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-010 | Date Collected: | 12.09.19 11.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 16.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 12.10.19 16.51 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 12.10.19 16.51 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-011 | Date Collected: | 12.09.19 11.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.9** | 9.98 | mg/kg | 12.10.19 14.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 12.10.19 19.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 12.10.19 19.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 12.10.19 19.04 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 12.10.19 19.04 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 12.10.19 19.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 12.10.19 19.04 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 12.10.19 19.04 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-011 | Date Collected: | 12.09.19 11.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 12.10.19 18.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 12.10.19 18.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 12.10.19 18.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 12.10.19 18.00 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-012 | Date Collected: | 12.09.19 11.44 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <9.88 | 9.88 | mg/kg | 12.10.19 14.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 12.10.19 19.25 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 12.10.19 19.25 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-012 | Date Collected: | 12.09.19 11.44 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 18.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 12.10.19 18.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 12.10.19 18.18 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-013 | Date Collected: | 12.09.19 12.48 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **943** | 49.5 | mg/kg | 12.10.19 14.40 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 12.10.19 19.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 12.10.19 19.25 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 12.10.19 19.25 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-013 | Date Collected: | 12.09.19 12.48 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 12.10.19 18.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 18.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 12.10.19 18.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 18.35 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-014 | Date Collected: | 12.09.19 13.06 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **593** | 49.9 | mg/kg | 12.10.19 14.58 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 19.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 19.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 19.45 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 19.45 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 19.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 12.10.19 19.45 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 12.10.19 19.45 | |

# Certificate of Analytical Results 645681

## LT Environmental, Inc., Arvada, CO

JRU -21-SWD-1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645681-014 | Date Collected: | 12.09.19 13.06 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 12.10.19 18.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 12.10.19 18.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 12.10.19 18.52 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 12.10.19 18.52 | |

# 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 645681

## LT Environmental, Inc.

JRU -21-SWD-1

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692123-1-BLK — LCS Sample Id: 7692123-1-BKS — LCSD Sample Id: 7692123-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 263 | 105 | 263 | 105 | 90-110 | 0 | 20 | mg/kg | 12.10.19 11:08 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-001 — MS Sample Id: 645681-001 S — MSD Sample Id: 645681-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3.97 | 198 | 214 | 106 | 217 | 107 | 90-110 | 1 | 20 | mg/kg | 12.10.19 12:57 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-011 — MS Sample Id: 645681-011 S — MSD Sample Id: 645681-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 23.9 | 200 | 238 | 107 | 238 | 108 | 90-110 | 0 | 20 | mg/kg | 12.10.19 14:23 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110097 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692139-1-BLK — LCS Sample Id: 7692139-1-BKS — LCSD Sample Id: 7692139-1-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 | 1050 | 105 | 1040 | 104 | 70-135 | 1 | 35 | mg/kg | 12.10.19 13:37 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1120 | 112 | 1190 | 119 | 70-135 | 6 | 35 | mg/kg | 12.10.19 13:37 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111 | | 128 | | 128 | | 70-135 | % | 12.10.19 13:37 |
| o-Terphenyl | 121 | | 120 | | 133 | | 70-135 | % | 12.10.19 13:37 |

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

# QC Summary 645681



## LT Environmental, Inc.

JRU -21-SWD-1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110103 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692141-1-BLK — LCS Sample Id: 7692141-1-BKS — LCSD Sample Id: 7692141-1-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 | 1060 | 106 | 953 | 95 | 70-135 | 11 | 35 | mg/kg | 12.10.19 18:03 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1130 | 113 | 983 | 98 | 70-135 | 14 | 35 | mg/kg | 12.10.19 18:03 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 107 | | 129 | | 113 | | 70-135 | % | 12.10.19 18:03 |
| o-Terphenyl | 112 | | 125 | | 108 | | 70-135 | % | 12.10.19 18:03 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110097 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692139-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 12.10.19 13:17 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110103 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692141-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 12.10.19 18:03 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110097 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645473-001 — MS Sample Id: 645473-001 S — MSD Sample Id: 645473-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 999 | 1130 | 113 | 1030 | 103 | 70-135 | 9 | 35 | mg/kg | 12.10.19 13:57 | |
| Diesel Range Organics (DRO) | <50.0 | 999 | 1220 | 122 | 1070 | 107 | 70-135 | 13 | 35 | mg/kg | 12.10.19 13:57 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 131 | | 123 | | 70-135 | % | 12.10.19 13:57 |
| o-Terphenyl | 134 | | 114 | | 70-135 | % | 12.10.19 13:57 |

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 645681



## LT Environmental, Inc.

JRU -21-SWD-1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110103 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-009 — MS Sample Id: 645681-009 S — MSD Sample Id: 645681-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.3 | 1010 | 1160 | 115 | 1020 | 102 | 70-135 | 13 | 35 | mg/kg | 12.10.19 18:44 | |
| Diesel Range Organics (DRO) | <50.3 | 1010 | 1240 | 123 | 1100 | 110 | 70-135 | 12 | 35 | mg/kg | 12.10.19 18:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 134 | | 123 | | 70-135 | % | 12.10.19 18:44 |
| o-Terphenyl | 133 | | 118 | | 70-135 | % | 12.10.19 18:44 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3110068 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692119-1-BLK — LCS Sample Id: 7692119-1-BKS — LCSD Sample Id: 7692119-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.0952 | 95 | 0.100 | 100 | 70-130 | 5 | 35 | mg/kg | 12.10.19 12:30 | |
| Toluene | <0.00200 | 0.100 | 0.0949 | 95 | 0.0988 | 99 | 70-130 | 4 | 35 | mg/kg | 12.10.19 12:30 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0935 | 94 | 0.0966 | 97 | 71-129 | 3 | 35 | mg/kg | 12.10.19 12:30 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.194 | 97 | 0.200 | 100 | 70-135 | 3 | 35 | mg/kg | 12.10.19 12:30 | |
| o-Xylene | <0.00200 | 0.100 | 0.0946 | 95 | 0.0980 | 98 | 71-133 | 4 | 35 | mg/kg | 12.10.19 12:30 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 99 | | 101 | | 70-130 | % | 12.10.19 12:30 |
| 4-Bromofluorobenzene | 98 | | 97 | | 101 | | 70-130 | % | 12.10.19 12:30 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3110068 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-001 — MS Sample Id: 645681-001 S — MSD Sample Id: 645681-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.0998 | 0.103 | 103 | 0.103 | 104 | 70-130 | 0 | 35 | mg/kg | 12.10.19 13:05 | |
| Toluene | <0.00200 | 0.0998 | 0.102 | 102 | 0.102 | 103 | 70-130 | 0 | 35 | mg/kg | 12.10.19 13:05 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.101 | 101 | 0.0996 | 101 | 71-129 | 1 | 35 | mg/kg | 12.10.19 13:05 | |
| m,p-Xylenes | <0.00399 | 0.200 | 0.209 | 105 | 0.206 | 104 | 70-135 | 1 | 35 | mg/kg | 12.10.19 13:05 | |
| o-Xylene | <0.00200 | 0.0998 | 0.103 | 103 | 0.101 | 102 | 71-133 | 2 | 35 | mg/kg | 12.10.19 13:05 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 102 | | 70-130 | % | 12.10.19 13:05 |
| 4-Bromofluorobenzene | 101 | | 102 | | 70-130 | % | 12.10.19 13:05 |

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

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

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

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

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# Chain of Custody

Work Order No: 645081

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



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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-21-SWD-1 | Turn Around | |
| Project Number: | 12917050 | Routine | ☐ |
| P.O. Number: | Eddy County | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 3.2 | Thermometer ID | | |
| Received Intact: | (Yes) No | T-NM-007 | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | 14 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH01 | S | 12/9/19 | 9:43 | 2' | 1 | X | X | X | Discrete |
| BH01A | | | 9:56 | 4' | 1 | X | X | X | |
| BH02 | | | 10:11 | 2' | 1 | X | X | X | |
| BH02A | | | 10:18 | 4' | 1 | X | X | X | |
| BH03 | | | 10:29 | 2' | 1 | X | X | X | |
| BH03A | | | 10:38 | 4' | 1 | X | X | X | |
| BH04 | | | 10:49 | 2' | 1 | X | X | X | |
| BH04A | | | 10:59 | 4' | 1 | X | X | X | |
| BH05 | | | 11:09 | 2' | 1 | X | X | X | |
| BH05A | | | 11:20 | 4' | 1 | X | X | X | |

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

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

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 12/10/1935 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev: 2018.1

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# Chain of Custody

Work Order No: 645681

XENCO LABORATORIES
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Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, Tx 79705 | City, State ZIP: | |
| Phone: | (432) 236-3849 | Email: | wmather@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-21-SWD-1 | Turn Around | |
| Project Number: | 12917050 | Routine | ☐ |
| P.O. Number: | Eddy County | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temperature (°C): | 2.2 | Temp Blank: | Yes No | Wet Ice: Yes No |
| Received Intact: | Yes No | Thermometer ID | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Work Order Notes |
|---|---|---|---|---|---|---|---|---|---|
| BH06 | S | 12/9/19 | 11:30 | 2' | 1 | X | X | X | TAT starts the day received by the lab, if received by 4:30pm |
| BH06A | S | | 11:44 | 4' | 1 | X | X | X | Sample Comments |
| BH07 | S | | 12:48 | 2' | 1 | X | X | X | Discrete |
| BH07A | S | | 13:06 | 4' | 1 | X | X | X | |

**ANALYSIS REQUEST**

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 12/10/19 0935 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |



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Final 1.000
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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 12/10/2019 09:35:00 AM

**Work Order #:** 645681

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

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

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 2.2 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 12/10/2019

**Checklist reviewed by:** Jessica Kramer Date: 12/11/2019

Jessica Kramer

# Analytical Report 645682

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU-21-SWD-1 (11-27-19)**

**012919298**

**11-DEC-19**

Collected By: Client




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

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

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

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

11-DEC-19

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

Reference: XENCO Report No(s): **645682**
**JRU-21-SWD-1 (11-27-19)**
Project Address: Eddy County

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645682. 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. 645682 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.*
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

# Sample Cross Reference 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS01 | S | 12-09-19 13:56 | 0.5 ft | 645682-001 |
| SS02 | S | 12-09-19 14:00 | 0.5 ft | 645682-002 |
| SS03 | S | 12-09-19 14:01 | 0.5 ft | 645682-003 |
| SS04 | S | 12-09-19 14:05 | 0.5 ft | 645682-004 |
| SS05 | S | 12-09-19 14:07 | 0.5 ft | 645682-005 |
| SS06 | S | 12-09-19 14:09 | 0.5 ft | 645682-006 |
| SS07 | S | 12-09-19 14:11 | 0.5 ft | 645682-007 |
| SS08 | S | 12-09-19 14:13 | 0.5 ft | 645682-008 |
| SS09 | S | 12-09-19 14:15 | 0.5 ft | 645682-009 |
| SS10 | S | 12-09-19 14:17 | 0.5 ft | 645682-010 |
| SS11 | S | 12-09-19 14:19 | 0.5 ft | 645682-011 |
| SS12 | S | 12-09-19 14:21 | 0.5 ft | 645682-012 |
| SS13 | S | 12-09-19 14:23 | 0.5 ft | 645682-013 |
| SS14 | S | 12-09-19 14:25 | 0.5 ft | 645682-014 |

# CASE NARRATIVE

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

***Project Name: JRU-21-SWD-1 (11-27-19)***

Project ID: *012919298*
Work Order Number(s): *645682*

Report Date: *11-DEC-19*
Date Received: *12/10/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3110068 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110074 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110092 Chloride by EPA 300
Lab Sample ID 645694-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 645682-007, -008, -009, -010, -011, -012, -013, -014.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

# Certificate of Analysis Summary 645682

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU-21-SWD-1 (11-27-19)

**Project Id:** 012919298
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 645682-001 | | 645682-002 | | 645682-003 | | 645682-004 | | 645682-005 | | 645682-006 | |
| | ***Field Id:*** | SS01 | | SS02 | | SS03 | | SS04 | | SS05 | | SS06 | |
| | ***Depth:*** | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-09-19 13:56 | | Dec-09-19 14:00 | | Dec-09-19 14:01 | | Dec-09-19 14:05 | | Dec-09-19 14:07 | | Dec-09-19 14:09 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | ***Analyzed:*** | Dec-10-19 19:10 | | Dec-10-19 19:27 | | Dec-10-19 19:44 | | Dec-10-19 20:02 | | Dec-10-19 20:19 | | Dec-10-19 20:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00397 | 0.00397 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00394 | 0.00394 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00197 | 0.00197 |
| **Chloride by EPA 300** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | ***Analyzed:*** | Dec-10-19 15:03 | | Dec-10-19 15:09 | | Dec-10-19 15:15 | | Dec-10-19 15:21 | | Dec-10-19 15:27 | | Dec-10-19 15:32 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 6290 | 99.6 | 9230 | 101 | 6230 | 100 | 4300 | 99.8 | 3290 | 49.8 | 1710 | 49.7 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | |
| | ***Analyzed:*** | Dec-10-19 19:45 | | Dec-10-19 20:05 | | Dec-10-19 20:05 | | Dec-10-19 20:25 | | Dec-10-19 20:45 | | Dec-10-19 20:45 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.3 | 50.3 | <50.2 | 50.2 | <50.2 | 50.2 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 645682

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU-21-SWD-1 (11-27-19)

**Project Id:** 012919298
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 645682-007 | | 645682-008 | | 645682-009 | | 645682-010 | | 645682-011 | | 645682-012 | |
| | ***Field Id:*** | SS07 | | SS08 | | SS09 | | SS10 | | SS11 | | SS12 | |
| | ***Depth:*** | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Dec-09-19 14:11 | | Dec-09-19 14:13 | | Dec-09-19 14:15 | | Dec-09-19 14:17 | | Dec-09-19 14:19 | | Dec-09-19 14:21 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | | Dec-10-19 10:00 | |
| | ***Analyzed:*** | Dec-10-19 14:57 | | Dec-10-19 15:16 | | Dec-10-19 15:35 | | Dec-10-19 15:55 | | Dec-10-19 16:14 | | Dec-10-19 16:33 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00403 | 0.00403 | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00401 | 0.00401 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | ***Extracted:*** | Dec-10-19 10:31 | | Dec-10-19 10:31 | | Dec-10-19 10:31 | | Dec-10-19 10:31 | | Dec-10-19 10:31 | | Dec-10-19 10:31 | |
| | ***Analyzed:*** | Dec-10-19 16:13 | | Dec-10-19 16:31 | | Dec-10-19 16:36 | | Dec-10-19 16:48 | | Dec-10-19 16:54 | | Dec-10-19 17:12 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 305 | 9.88 | 858 | 9.96 | 369 | 9.98 | 660 | 9.88 | 610 | 9.98 | 623 | 9.88 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | | Dec-10-19 16:00 | |
| | ***Analyzed:*** | Dec-10-19 21:05 | | Dec-10-19 21:05 | | Dec-10-19 21:26 | | Dec-10-19 21:26 | | Dec-10-19 21:45 | | Dec-10-19 21:45 | |
| | ***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 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 | <49.8 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.0 | 50.0 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 | <49.8 | 49.8 |
| Total TPH | | <50.0 | 50.0 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 | <49.8 | 49.8 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 645682

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU-21-SWD-1 (11-27-19)

**Project Id:** 012919298
**Contact:** Dan Moir
**Project Location:** Eddy County

**Date Received in Lab:** Tue Dec-10-19 09:35 am
**Report Date:** 11-DEC-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 645682-013 | | 645682-014 | | | | | |
| | ***Field Id:*** | SS13 | | SS14 | | | | | |
| | ***Depth:*** | 0.5- ft | | 0.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Dec-09-19 14:23 | | Dec-09-19 14:25 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Dec-10-19 10:00 | | Dec-10-19 10:00 | | | | | |
| | ***Analyzed:*** | Dec-10-19 16:52 | | Dec-10-19 17:11 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| Toluene | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| Ethylbenzene | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| m,p-Xylenes | | <0.000392 | 0.000392 | <0.00400 | 0.00400 | | | | |
| o-Xylene | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| Total Xylenes | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| Total BTEX | | <0.000196 | 0.000196 | <0.00200 | 0.00200 | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Dec-10-19 10:31 | | Dec-10-19 10:31 | | | | | |
| | ***Analyzed:*** | Dec-10-19 17:17 | | Dec-10-19 17:23 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 978 | 9.92 | 648 | 10.1 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Dec-10-19 16:00 | | Dec-10-19 16:00 | | | | | |
| | ***Analyzed:*** | Dec-10-19 22:06 | | Dec-10-19 22:06 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <49.9 | 49.9 | | | | |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <49.9 | 49.9 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <49.9 | 49.9 | | | | |
| Total GRO-DRO | | <50.1 | 50.1 | <49.9 | 49.9 | | | | |
| Total TPH | | <50.1 | 50.1 | <49.9 | 49.9 | | | | |

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



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-001 | Date Collected: | 12.09.19 13.56 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6290** | 99.6 | mg/kg | 12.10.19 15.03 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 19.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 19.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 19.45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 19.45 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 19.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 12.10.19 19.45 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 12.10.19 19.45 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-001 | Date Collected: | 12.09.19 13.56 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 12.10.19 19.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 12.10.19 19.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 12.10.19 19.10 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-002 | Date Collected: | 12.09.19 14.00 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9230** | 101 | mg/kg | 12.10.19 15.09 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 12.10.19 20.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 12.10.19 20.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 12.10.19 20.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 12.10.19 20.05 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 12.10.19 20.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 12.10.19 20.05 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 12.10.19 20.05 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-002 | Date Collected: | 12.09.19 14.00 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 12.10.19 19.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 12.10.19 19.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 12.10.19 19.27 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 12.10.19 19.27 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

Sample Id: **SS03** Matrix: Soil Date Received:12.10.19 09.35
Lab Sample Id: 645682-003 Date Collected: 12.09.19 14.01 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 12.10.19 10.00 Basis: Wet Weight
Seq Number: 3110077

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6230** | 100 | mg/kg | 12.10.19 15.15 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 12.10.19 16.00 Basis: Wet Weight
Seq Number: 3110103

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 20.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 20.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 20.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 20.05 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 20.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 12.10.19 20.05 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 12.10.19 20.05 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS03** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-003 | Date Collected: | 12.09.19 14.01 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 19.44 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 19.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 12.10.19 19.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 12.10.19 19.44 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-004 | Date Collected: | 12.09.19 14.05 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **4300** | 99.8 | mg/kg | 12.10.19 15.21 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 12.10.19 20.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 12.10.19 20.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 12.10.19 20.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 12.10.19 20.25 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 12.10.19 20.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 12.10.19 20.25 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 12.10.19 20.25 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-004 | Date Collected: | 12.09.19 14.05 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 12.10.19 20.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 12.10.19 20.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 12.10.19 20.02 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 12.10.19 20.02 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS05** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-005 | Date Collected: | 12.09.19 14.07 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **3290** | 49.8 | mg/kg | 12.10.19 15.27 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 12.10.19 20.45 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 12.10.19 20.45 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS05** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-005 | Date Collected: | 12.09.19 14.07 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 12.10.19 20.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 12.10.19 20.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 70-130 | 12.10.19 20.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 12.10.19 20.19 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS06** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-006 | Date Collected: | 12.09.19 14.09 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1710** | 49.7 | mg/kg | 12.10.19 15.32 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 20.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 12.10.19 20.45 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 12.10.19 20.45 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS06** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-006 | Date Collected: | 12.09.19 14.09 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110068 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |
| Toluene | 108-88-3 | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00394 | 0.00394 | mg/kg | 12.10.19 20.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |
| Total BTEX | | <0.00197 | 0.00197 | mg/kg | 12.10.19 20.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 12.10.19 20.37 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 12.10.19 20.37 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS07** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-007 | Date Collected: | 12.09.19 14.11 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **305** | 9.88 | mg/kg | 12.10.19 16.13 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 12.10.19 21.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 12.10.19 21.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 12.10.19 21.05 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 12.10.19 21.05 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 12.10.19 21.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 12.10.19 21.05 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 12.10.19 21.05 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS07** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-007 | Date Collected: | 12.09.19 14.11 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 12.10.19 14.57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 12.10.19 14.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 14.57 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 12.10.19 14.57 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS08** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-008 | Date Collected: | 12.09.19 14.13 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **858** | 9.96 | mg/kg | 12.10.19 16.31 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 12.10.19 21.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 12.10.19 21.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 12.10.19 21.05 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 12.10.19 21.05 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 12.10.19 21.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-135 | 12.10.19 21.05 | |
| o-Terphenyl | 84-15-1 | 116 | % | 70-135 | 12.10.19 21.05 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS08** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-008 | Date Collected: | 12.09.19 14.13 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 12.10.19 15.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 12.10.19 15.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 12.10.19 15.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 12.10.19 15.16 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS09** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-009 | Date Collected: | 12.09.19 14.15 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **369** | 9.98 | mg/kg | 12.10.19 16.36 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 21.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 21.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 21.26 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 21.26 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 21.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 12.10.19 21.26 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 12.10.19 21.26 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS09** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-009 | Date Collected: | 12.09.19 14.15 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 12.10.19 15.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 12.10.19 15.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 15.35 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS10** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-010 | Date Collected: | 12.09.19 14.17 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **660** | 9.88 | mg/kg | 12.10.19 16.48 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 12.10.19 21.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 12.10.19 21.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 12.10.19 21.26 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 12.10.19 21.26 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 12.10.19 21.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 12.10.19 21.26 | |
| o-Terphenyl | 84-15-1 | 109 | % | 70-135 | 12.10.19 21.26 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS10** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-010 | Date Collected: | 12.09.19 14.17 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 12.10.19 15.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 12.10.19 15.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 12.10.19 15.55 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 12.10.19 15.55 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS11** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-011 | Date Collected: | 12.09.19 14.19 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **610** | 9.98 | mg/kg | 12.10.19 16.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 12.10.19 21.45 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 12.10.19 21.45 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS11** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-011 | Date Collected: | 12.09.19 14.19 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 12.10.19 16.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 91 | % | 70-130 | 12.10.19 16.14 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 12.10.19 16.14 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS12** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-012 | Date Collected: | 12.09.19 14.21 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **623** | 9.88 | mg/kg | 12.10.19 17.12 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 12.10.19 21.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 12.10.19 21.45 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 12.10.19 21.45 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS12** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-012 | Date Collected: | 12.09.19 14.21 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 16.33 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 16.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 12.10.19 16.33 | |
| 1,4-Difluorobenzene | 540-36-3 | 91 | % | 70-130 | 12.10.19 16.33 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS13** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-013 | Date Collected: | 12.09.19 14.23 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **978** | 9.92 | mg/kg | 12.10.19 17.17 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 12.10.19 22.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 12.10.19 22.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 12.10.19 22.06 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 12.10.19 22.06 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 12.10.19 22.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 12.10.19 22.06 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 12.10.19 22.06 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS13** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-013 | Date Collected: | 12.09.19 14.23 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |
| Toluene | 108-88-3 | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.000392 | 0.000392 | mg/kg | 12.10.19 16.52 | U | 1 |
| o-Xylene | 95-47-6 | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |
| Total BTEX | | <0.000196 | 0.000196 | mg/kg | 12.10.19 16.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 12.10.19 16.52 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 12.10.19 16.52 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS14** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-014 | Date Collected: | 12.09.19 14.25 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.31 | Basis: | Wet Weight |
| Seq Number: | 3110092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **648** | 10.1 | mg/kg | 12.10.19 17.23 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 12.10.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3110103 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 12.10.19 22.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 12.10.19 22.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 12.10.19 22.06 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 12.10.19 22.06 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 12.10.19 22.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 12.10.19 22.06 | |
| o-Terphenyl | 84-15-1 | 119 | % | 70-135 | 12.10.19 22.06 | |

# Certificate of Analytical Results 645682

## LT Environmental, Inc., Arvada, CO

JRU-21-SWD-1 (11-27-19)

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS14** | Matrix: | Soil | Date Received: | 12.10.19 09.35 |
| Lab Sample Id: | 645682-014 | Date Collected: | 12.09.19 14.25 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 12.10.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3110074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 12.10.19 17.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 12.10.19 17.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 12.10.19 17.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 12.10.19 17.11 | |

# 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 645682



## LT Environmental, Inc.

JRU-21-SWD-1 (11-27-19)

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692123-1-BLK — LCS Sample Id: 7692123-1-BKS — LCSD Sample Id: 7692123-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 263 | 105 | 263 | 105 | 90-110 | 0 | 20 | mg/kg | 12.10.19 11:08 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110092 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692145-1-BLK — LCS Sample Id: 7692145-1-BKS — LCSD Sample Id: 7692145-1-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 | 269 | 108 | 273 | 109 | 90-110 | 1 | 20 | mg/kg | 12.10.19 15:56 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-001 — MS Sample Id: 645681-001 S — MSD Sample Id: 645681-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3.97 | 198 | 214 | 106 | 217 | 107 | 90-110 | 1 | 20 | mg/kg | 12.10.19 12:57 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110077 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-011 — MS Sample Id: 645681-011 S — MSD Sample Id: 645681-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 23.9 | 200 | 238 | 107 | 238 | 108 | 90-110 | 0 | 20 | mg/kg | 12.10.19 14:23 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3110092 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645682-007 — MS Sample Id: 645682-007 S — MSD Sample Id: 645682-007 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 305 | 198 | 312 | 4 | 321 | 8 | 90-110 | 3 | 20 | mg/kg | 12.10.19 16:19 | X |

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

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

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

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

# QC Summary 645682



## LT Environmental, Inc.

JRU-21-SWD-1 (11-27-19)

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110092 Matrix: Soil Date Prep: 12.10.19
Parent Sample Id: 645694-002 MS Sample Id: 645694-002 S MSD Sample Id: 645694-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 201 | 199 | 420 | 110 | 423 | 111 | 90-110 | 1 | 20 | mg/kg | 12.10.19 17:46 | X |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110103 Matrix: Solid Date Prep: 12.10.19
MB Sample Id: 7692141-1-BLK LCS Sample Id: 7692141-1-BKS LCSD Sample Id: 7692141-1-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 | 1060 | 106 | 953 | 95 | 70-135 | 11 | 35 | mg/kg | 12.10.19 18:03 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1130 | 113 | 983 | 98 | 70-135 | 14 | 35 | mg/kg | 12.10.19 18:03 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 107 | | 129 | | 113 | | 70-135 | % | 12.10.19 18:03 |
| o-Terphenyl | 112 | | 125 | | 108 | | 70-135 | % | 12.10.19 18:03 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110103 Matrix: Solid Date Prep: 12.10.19
MB Sample Id: 7692141-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 12.10.19 18:03 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110103 Matrix: Soil Date Prep: 12.10.19
Parent Sample Id: 645681-009 MS Sample Id: 645681-009 S MSD Sample Id: 645681-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.3 | 1010 | 1160 | 115 | 1020 | 102 | 70-135 | 13 | 35 | mg/kg | 12.10.19 18:44 | |
| Diesel Range Organics (DRO) | <50.3 | 1010 | 1240 | 123 | 1100 | 110 | 70-135 | 12 | 35 | mg/kg | 12.10.19 18:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 134 | | 123 | | 70-135 | % | 12.10.19 18:44 |
| o-Terphenyl | 133 | | 118 | | 70-135 | % | 12.10.19 18:44 |

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

# QC Summary 645682

## LT Environmental, Inc.

JRU-21-SWD-1 (11-27-19)

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3110068 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692119-1-BLK — LCS Sample Id: 7692119-1-BKS — LCSD Sample Id: 7692119-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.0952 | 95 | 0.100 | 100 | 70-130 | 5 | 35 | mg/kg | 12.10.19 12:30 | |
| Toluene | <0.00200 | 0.100 | 0.0949 | 95 | 0.0988 | 99 | 70-130 | 4 | 35 | mg/kg | 12.10.19 12:30 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0935 | 94 | 0.0966 | 97 | 71-129 | 3 | 35 | mg/kg | 12.10.19 12:30 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.194 | 97 | 0.200 | 100 | 70-135 | 3 | 35 | mg/kg | 12.10.19 12:30 | |
| o-Xylene | <0.00200 | 0.100 | 0.0946 | 95 | 0.0980 | 98 | 71-133 | 4 | 35 | mg/kg | 12.10.19 12:30 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 99 | | 101 | | 70-130 | % | 12.10.19 12:30 |
| 4-Bromofluorobenzene | 98 | | 97 | | 101 | | 70-130 | % | 12.10.19 12:30 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3110074 — Matrix: Solid — Date Prep: 12.10.19
MB Sample Id: 7692121-1-BLK — LCS Sample Id: 7692121-1-BKS — LCSD Sample Id: 7692121-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.0964 | 96 | 0.0981 | 98 | 70-130 | 2 | 35 | mg/kg | 12.10.19 13:15 | |
| Toluene | <0.00200 | 0.100 | 0.0965 | 97 | 0.100 | 100 | 70-130 | 4 | 35 | mg/kg | 12.10.19 13:15 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0937 | 94 | 0.100 | 100 | 71-129 | 7 | 35 | mg/kg | 12.10.19 13:15 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.197 | 99 | 0.212 | 106 | 70-135 | 7 | 35 | mg/kg | 12.10.19 13:15 | |
| o-Xylene | <0.00200 | 0.100 | 0.0997 | 100 | 0.108 | 108 | 71-133 | 8 | 35 | mg/kg | 12.10.19 13:15 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 103 | | 103 | | 70-130 | % | 12.10.19 13:15 |
| 4-Bromofluorobenzene | 109 | | 118 | | 118 | | 70-130 | % | 12.10.19 13:15 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3110068 — Matrix: Soil — Date Prep: 12.10.19
Parent Sample Id: 645681-001 — MS Sample Id: 645681-001 S — MSD Sample Id: 645681-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.0998 | 0.103 | 103 | 0.103 | 104 | 70-130 | 0 | 35 | mg/kg | 12.10.19 13:05 | |
| Toluene | <0.00200 | 0.0998 | 0.102 | 102 | 0.102 | 103 | 70-130 | 0 | 35 | mg/kg | 12.10.19 13:05 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.101 | 101 | 0.0996 | 101 | 71-129 | 1 | 35 | mg/kg | 12.10.19 13:05 | |
| m,p-Xylenes | <0.00399 | 0.200 | 0.209 | 105 | 0.206 | 104 | 70-135 | 1 | 35 | mg/kg | 12.10.19 13:05 | |
| o-Xylene | <0.00200 | 0.0998 | 0.103 | 103 | 0.101 | 102 | 71-133 | 2 | 35 | mg/kg | 12.10.19 13:05 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 102 | | 70-130 | % | 12.10.19 13:05 |
| 4-Bromofluorobenzene | 101 | | 102 | | 70-130 | % | 12.10.19 13:05 |

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 645682



## LT Environmental, Inc.

JRU-21-SWD-1 (11-27-19)

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3110074 Matrix: Soil Date Prep: 12.10.19

Parent Sample Id: 645682-007 MS Sample Id: 645682-007 S MSD Sample Id: 645682-007 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 | 0.0972 | 97 | 0.101 | 100 | 70-130 | 4 | 35 | mg/kg | 12.10.19 13:53 | |
| Toluene | <0.00200 | 0.100 | 0.0972 | 97 | 0.101 | 100 | 70-130 | 4 | 35 | mg/kg | 12.10.19 13:53 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0957 | 96 | 0.0971 | 96 | 71-129 | 1 | 35 | mg/kg | 12.10.19 13:53 | |
| m,p-Xylenes | <0.00401 | 0.200 | 0.201 | 101 | 0.202 | 100 | 70-135 | 0 | 35 | mg/kg | 12.10.19 13:53 | |
| o-Xylene | <0.00200 | 0.100 | 0.102 | 102 | 0.103 | 102 | 71-133 | 1 | 35 | mg/kg | 12.10.19 13:53 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 105 | | 70-130 | % | 12.10.19 13:53 |
| 4-Bromofluorobenzene | 121 | | 119 | | 70-130 | % | 12.10.19 13:53 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

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# Chain of Custody

Work Order No: 645082

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



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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-21-SWD-1 (11-27-19) | Turn Around | |
| Project Number: | 12917050 | Routine | ☐ |
| P.O. Number: | Eddy County | Rush: | 24hr |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 22. | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-009 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 14 |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SS01 | S | 12/9/19 | 13:56 | .5' | 1 | X | X | X |
| SS02 | | | 14:00 | | 1 | X | X | X |
| SS03 | | | 14:01 | | 1 | X | X | X |
| SS04 | | | 14:05 | | 1 | X | X | X |
| SS05 | | | 14:07 | | 1 | X | X | X |
| SS06 | | | 14:09 | | 1 | X | X | X |
| SS07 | | | 14:11 | | 1 | X | X | X |
| SS08 | | | 14:13 | | 1 | X | X | X |
| SS09 | | | 14:15 | | 1 | X | X | X |
| SS10 | | | 14:17 | | 1 | X | X | X |

**Work Order Notes**

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

**Sample Comments**

Discrete

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

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | 1 | 12/10/19 0935 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |



Received by OCD: 12/11/2020 11:30:06 AM
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# Chain of Custody

Work Order No: 045082

XENCO LABORATORIES

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

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-21-SWD-1 (11-27-19) | Turn Around | |
| Project Number: | 12917050 | Routine ☐ | |
| P.O. Number: | Eddy County | Rush: 24hr | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 2.2 | Thermometer ID | |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SS11 | S | 12/9/19 | 14:19 | .5' | 1 | X | X | X | Discrete |
| SS12 | | | 14:21 | | 1 | X | X | X | |
| SS13 | | | 14:23 | | 1 | X | X | X | |
| SS14 | | | 14:25 | | 1 | X | X | X | |

**Work Order Notes**

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 |
|---|---|---|---|---|---|
| | | 12.10.19 0935 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 05.14.18 Rev. 2018.1

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 12/10/2019 09:35:00 AM

**Work Order #:** 645682

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

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

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 2.2 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** |
| #5 Custody Seals intact on sample bottles? | **Yes** |
| #6*Custody Seals Signed and dated? | **Yes** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **No** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 12/10/2019

**Checklist reviewed by:** Jessica Kramer Date: 12/10/2019

Jessica Kramer

# Analytical Report 648243

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU 12H**

**012918007**

**01.09.2020**

Collected By: Client

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

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

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

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

01.09.2020

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

Reference: XENCO Report No(s): **648243**
**JRU 12H**
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) 648243. 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. 648243 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**Jessica Kramer**
Project Assistant

*A Small Business and Minority Company*

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

# Sample Cross Reference 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH07 | S | 01.07.2020 11:10 | 4 ft | 648243-001 |
| BH08 | S | 01.07.2020 11:20 | 4 ft | 648243-002 |
| BH09 | S | 01.07.2020 11:30 | 4 ft | 648243-003 |
| BH10 | S | 01.07.2020 11:40 | 4 ft | 648243-004 |
| BH11 | S | 01.07.2020 12:10 | 4 ft | 648243-005 |

# CASE NARRATIVE



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

***Project Name: JRU 12H***

Project ID: *012918007*
Work Order Number(s): *648243*

Report Date: *01.09.2020*
Date Received: *01.08.2020*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3112686 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 648243

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU 12H

**Project Id:** 012918007
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Wed 01.08.2020 09:46
**Report Date:** 01.09.2020 14:27
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 648243-001 | | 648243-002 | | 648243-003 | | 648243-004 | | 648243-005 | |
| | ***Field Id:*** | BH07 | | BH08 | | BH09 | | BH10 | | BH11 | |
| | ***Depth:*** | 4- ft | | 4- ft | | 4- ft | | 4- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 01.07.2020 11:10 | | 01.07.2020 11:20 | | 01.07.2020 11:30 | | 01.07.2020 11:40 | | 01.07.2020 12:10 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 01.08.2020 13:00 | | 01.08.2020 13:00 | | 01.08.2020 13:00 | | 01.08.2020 13:00 | | 01.08.2020 13:00 | |
| | ***Analyzed:*** | 01.08.2020 18:58 | | 01.08.2020 19:25 | | 01.08.2020 19:42 | | 01.08.2020 19:59 | | 01.08.2020 20:17 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Toluene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00403 | 0.00403 | <0.00402 | 0.00402 | <0.00404 | 0.00404 | <0.00402 | 0.00402 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00201 | 0.00201 |
| **Chloride by EPA 300** | ***Extracted:*** | 01.08.2020 14:10 | | 01.08.2020 14:10 | | 01.08.2020 14:10 | | 01.08.2020 14:10 | | 01.08.2020 14:10 | |
| | ***Analyzed:*** | 01.08.2020 19:52 | | 01.08.2020 19:58 | | 01.08.2020 20:04 | | 01.08.2020 20:10 | | 01.08.2020 20:16 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 17.7 | 9.88 | 792 | 49.8 | 106 | 9.98 | 59.8 | 10.1 | <10.1 | 10.1 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 01.08.2020 15:50 | | 01.08.2020 15:50 | | 01.08.2020 15:50 | | 01.08.2020 15:50 | | 01.08.2020 15:50 | |
| | ***Analyzed:*** | 01.09.2020 04:22 | | 01.09.2020 04:42 | | 01.09.2020 05:01 | | 01.09.2020 05:01 | | 01.09.2020 05:21 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total GRO-DRO | | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 |
| Total TPH | | <50.2 | 50.2 | <50.2 | 50.2 | <50.0 | 50.0 | <50.2 | 50.2 | <50.2 | 50.2 |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

Sample Id: **BH07** Matrix: Soil Date Received:01.08.2020 09:46
Lab Sample Id: 648243-001 Date Collected: 01.07.2020 11:10 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 01.08.2020 14:10 Basis: Wet Weight
Seq Number: 3112708

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **17.7** | 9.88 | mg/kg | 01.08.2020 19:52 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 01.08.2020 15:50 Basis: Wet Weight
Seq Number: 3112724

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.09.2020 04:22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:22 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:22 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 128 | % | 70-135 | 01.09.2020 04:22 | |
| o-Terphenyl | 84-15-1 | 127 | % | 70-135 | 01.09.2020 04:22 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-001 | Date Collected: | 01.07.2020 11:10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3112686 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.08.2020 18:58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.08.2020 18:58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.08.2020 18:58 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.08.2020 18:58 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-002 | Date Collected: | 01.07.2020 11:20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 14:10 | Basis: | Wet Weight |
| Seq Number: | 3112708 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **792** | 49.8 | mg/kg | 01.08.2020 19:58 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.08.2020 15:50 | Basis: | Wet Weight |
| Seq Number: | 3112724 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:42 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.09.2020 04:42 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:42 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:42 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.09.2020 04:42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 126 | % | 70-135 | 01.09.2020 04:42 | |
| o-Terphenyl | 84-15-1 | 133 | % | 70-135 | 01.09.2020 04:42 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH08** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-002 | Date Collected: | 01.07.2020 11:20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3112686 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.08.2020 19:25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.08.2020 19:25 | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 01.08.2020 19:25 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-003 | Date Collected: | 01.07.2020 11:30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 14:10 | Basis: | Wet Weight |
| Seq Number: | 3112708 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **106** | 9.98 | mg/kg | 01.08.2020 20:04 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.08.2020 15:50 | Basis: | Wet Weight |
| Seq Number: | 3112724 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.09.2020 05:01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 127 | % | 70-135 | 01.09.2020 05:01 | |
| o-Terphenyl | 84-15-1 | 134 | % | 70-135 | 01.09.2020 05:01 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH09** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-003 | Date Collected: | 01.07.2020 11:30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3112686 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.08.2020 19:42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.08.2020 19:42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 01.08.2020 19:42 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.08.2020 19:42 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-004 | Date Collected: | 01.07.2020 11:40 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 14:10 | Basis: | Wet Weight |
| Seq Number: | 3112708 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **59.8** | 10.1 | mg/kg | 01.08.2020 20:10 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.08.2020 15:50 | Basis: | Wet Weight |
| Seq Number: | 3112724 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:01 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 125 | % | 70-135 | 01.09.2020 05:01 | |
| o-Terphenyl | 84-15-1 | 124 | % | 70-135 | 01.09.2020 05:01 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH10** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-004 | Date Collected: | 01.07.2020 11:40 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3112686 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.08.2020 19:59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.08.2020 19:59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.08.2020 19:59 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 01.08.2020 19:59 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-005 | Date Collected: | 01.07.2020 12:10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 14:10 | Basis: | Wet Weight |
| Seq Number: | 3112708 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.08.2020 20:16 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.08.2020 15:50 | Basis: | Wet Weight |
| Seq Number: | 3112724 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.09.2020 05:21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:21 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:21 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.09.2020 05:21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 128 | % | 70-135 | 01.09.2020 05:21 | |
| o-Terphenyl | 84-15-1 | 134 | % | 70-135 | 01.09.2020 05:21 | |

# Certificate of Analytical Results 648243

## LT Environmental, Inc., Arvada, CO

JRU 12H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH11** | Matrix: | Soil | Date Received: | 01.08.2020 09:46 |
| Lab Sample Id: | 648243-005 | Date Collected: | 01.07.2020 12:10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.08.2020 13:00 | Basis: | Wet Weight |
| Seq Number: | 3112686 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.08.2020 20:17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.08.2020 20:17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.08.2020 20:17 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 01.08.2020 20:17 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

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

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

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

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

# QC Summary 648243



## LT Environmental, Inc.

JRU 12H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112708 — Matrix: Solid — Date Prep: 01.08.2020
MB Sample Id: 7693907-1-BLK — LCS Sample Id: 7693907-1-BKS — LCSD Sample Id: 7693907-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 254 | 102 | 257 | 103 | 90-110 | 1 | 20 | mg/kg | 01.08.2020 17:32 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112708 — Matrix: Soil — Date Prep: 01.08.2020
Parent Sample Id: 648229-021 — MS Sample Id: 648229-021 S — MSD Sample Id: 648229-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 425 | 199 | 633 | 105 | 633 | 104 | 90-110 | 0 | 20 | mg/kg | 01.08.2020 17:50 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112708 — Matrix: Soil — Date Prep: 01.08.2020
Parent Sample Id: 648229-031 — MS Sample Id: 648229-031 S — MSD Sample Id: 648229-031 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 810 | 1010 | 1910 | 109 | 1880 | 108 | 90-110 | 2 | 20 | mg/kg | 01.08.2020 19:15 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112724 — Matrix: Solid — Date Prep: 01.08.2020
MB Sample Id: 7693951-1-BLK — LCS Sample Id: 7693951-1-BKS — LCSD Sample Id: 7693951-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <13.9 | 1000 | 1140 | 114 | 1200 | 120 | 70-135 | 5 | 35 | mg/kg | 01.09.2020 02:23 | |
| Diesel Range Organics (DRO) | <11.5 | 1000 | 1100 | 110 | 1100 | 110 | 70-135 | 0 | 35 | mg/kg | 01.09.2020 02:23 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 125 | | 108 | | 129 | | 70-135 | % | 01.09.2020 02:23 |
| o-Terphenyl | 118 | | 100 | | 101 | | 70-135 | % | 01.09.2020 02:23 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112724 — Matrix: Solid — Date Prep: 01.08.2020
MB Sample Id: 7693951-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.09.2020 02:23 | |

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 648243

## LT Environmental, Inc.

JRU 12H

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112724 Matrix: Soil Date Prep: 01.08.2020
Parent Sample Id: 648245-002 MS Sample Id: 648245-002 S MSD Sample Id: 648245-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <49.9 | 998 | 1200 | 120 | 1220 | 122 | 70-135 | 2 | 35 | mg/kg | 01.09.2020 11:36 | |
| Diesel Range Organics (DRO) | <49.9 | 998 | 1110 | 111 | 1120 | 112 | 70-135 | 1 | 35 | mg/kg | 01.09.2020 11:36 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 128 | | 129 | | 70-135 | % | 01.09.2020 11:36 |
| o-Terphenyl | 101 | | 99 | | 70-135 | % | 01.09.2020 11:36 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3112686 Matrix: Solid Date Prep: 01.08.2020
MB Sample Id: 7693911-1-BLK LCS Sample Id: 7693911-1-BKS LCSD Sample Id: 7693911-1-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 | 0.0938 | 94 | 0.0920 | 92 | 70-130 | 2 | 35 | mg/kg | 01.08.2020 12:36 | |
| Toluene | <0.00200 | 0.100 | 0.0942 | 94 | 0.0921 | 92 | 70-130 | 2 | 35 | mg/kg | 01.08.2020 12:36 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0924 | 92 | 0.0906 | 91 | 71-129 | 2 | 35 | mg/kg | 01.08.2020 12:36 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.191 | 96 | 0.187 | 94 | 70-135 | 2 | 35 | mg/kg | 01.08.2020 12:36 | |
| o-Xylene | <0.00200 | 0.100 | 0.0929 | 93 | 0.0910 | 91 | 71-133 | 2 | 35 | mg/kg | 01.08.2020 12:36 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 98 | | 98 | | 70-130 | % | 01.08.2020 12:36 |
| 4-Bromofluorobenzene | 104 | | 97 | | 98 | | 70-130 | % | 01.08.2020 12:36 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3112686 Matrix: Soil Date Prep: 01.08.2020
Parent Sample Id: 648229-021 MS Sample Id: 648229-021 S MSD Sample Id: 648229-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | 0.101 | 0.115 | 114 | 0.119 | 119 | 70-130 | 3 | 35 | mg/kg | 01.08.2020 13:10 | |
| Toluene | <0.00202 | 0.101 | 0.115 | 114 | 0.120 | 120 | 70-130 | 4 | 35 | mg/kg | 01.08.2020 13:10 | |
| Ethylbenzene | <0.00202 | 0.101 | 0.112 | 111 | 0.116 | 116 | 71-129 | 4 | 35 | mg/kg | 01.08.2020 13:10 | |
| m,p-Xylenes | <0.000761 | 0.202 | 0.230 | 114 | 0.240 | 120 | 70-135 | 4 | 35 | mg/kg | 01.08.2020 13:10 | |
| o-Xylene | <0.00202 | 0.101 | 0.112 | 111 | 0.117 | 117 | 71-133 | 4 | 35 | mg/kg | 01.08.2020 13:10 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 101 | | 70-130 | % | 01.08.2020 13:10 |
| 4-Bromofluorobenzene | 105 | | 106 | | 70-130 | % | 01.08.2020 13:10 |

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

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# Chain of Custody

Work Order No: 648243

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 East Green Street |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (432) 236-3849 | Email: | slo@ltenv.com, dmoir@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU 12H | Turn Around | |
| Project Number: | 012918007 | Routine ☐ | |
| P.O. Number: | | Rush: 24hr | |
| Sampler's Name: | Spencer Lo | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | D.U | Thermometer ID | |
| Received Intact: | (Yes) No | T-NM-027 | |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| BH07 | S | 1.7.20 | 1110 | 4' | 1 | X | X | X |
| BH08 | S | 1.7.20 | 1130 | 4' | 1 | X | X | X |
| BH09 | S | 1.7.20 | 1130 | 4' | 1 | X | X | X |
| BH10 | S | 1.7.20 | 1140 | 4' | 1 | X | X | X |
| BH11 | S | 1.7.20 | 1210 | 4' | 1 | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

TAT starts the day received 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 |
|---|---|---|---|---|---|
| | | 01/08/20 0800 | 2 | | 1/8/20 9:46 |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
Page 19 of 20

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01/08/2020 09:46:00 AM

**Work Order #:** 648243

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

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

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01/08/2020

**Checklist reviewed by:** Jessica Kramer Date: 01/09/2020

Jessica Kramer

# ANALYTICAL REPORT

December 28, 2017

## XTO Energy- Delaware Division

| | |
|---|---|
| Sample Delivery Group: | L958015 |
| Samples Received: | 12/15/2017 |
| Project Number: | 3001527162 |
| Description: | JRU 12 |

Report To: Kyle Littrell
6401 N Holiday Hill Rd
Suite 200
Midland, TX 79707

Entire Report Reviewed By:

Nancy McLain
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## PERBC-121317-1055 L958015-01 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:55
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 1 | 12/18/17 15:11 | 12/18/17 21:34 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:46 | 12/19/17 02:11 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 5 | 12/23/17 08:36 | 12/26/17 16:07 | ACM |

## PERBC-121317-1050 L958015-02 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:50
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 10 | 12/18/17 15:11 | 12/18/17 21:42 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:46 | 12/19/17 02:34 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 5 | 12/23/17 08:36 | 12/26/17 16:24 | ACM |

## PERBC-121317-1057 L958015-03 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:57
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 100 | 12/18/17 15:11 | 12/18/17 21:51 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:46 | 12/19/17 02:57 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 15:15 | ACM |

## PERBC-121317-1059 L958015-04 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:59
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055693 | 1 | 12/20/17 13:48 | 12/20/17 14:00 | JD |
| Wet Chemistry by Method 300.0 | WG1055697 | 5 | 12/20/17 16:39 | 12/20/17 21:33 | MAJ |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:46 | 12/19/17 03:20 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 5 | 12/23/17 08:36 | 12/26/17 17:16 | ACM |

## PERBC-121317-1101 L958015-05 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 11:01
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055693 | 1 | 12/20/17 13:48 | 12/20/17 14:00 | JD |
| Wet Chemistry by Method 300.0 | WG1055697 | 10 | 12/20/17 16:39 | 12/20/17 21:47 | MAJ |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:46 | 12/19/17 03:43 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 15:32 | ACM |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy McLain
Technical Service Representative

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 87.7 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 130 | | 10.0 | 1 | 12/18/2017 21:34 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00148 | | 0.000500 | 1 | 12/19/2017 02:11 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 02:11 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 02:11 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 02:11 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 02:11 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *97.8* | | *77.0-120* | | *12/19/2017 02:11* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *98.2* | | *75.0-128* | | *12/19/2017 02:11* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 20.0 | 5 | 12/26/2017 16:07 | WG1055878 |
| C28-C40 Oil Range | 37.2 | | 20.0 | 5 | 12/26/2017 16:07 | WG1055878 |
| *(S) o-Terphenyl* | *64.9* | | *18.0-148* | | *12/26/2017 16:07* | WG1055878 |

Sample Narrative:

L958015-01 WG1055878: Cannot run at lower dilution due to viscosity of extract

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 93.8 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 4590 | | 100 | 10 | 12/18/2017 21:42 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000502 | | 0.000500 | 1 | 12/19/2017 02:34 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 02:34 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 02:34 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 02:34 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 02:34 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *95.0* | | *77.0-120* | | *12/19/2017 02:34* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *94.8* | | *75.0-128* | | *12/19/2017 02:34* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 402 | J3 V | 20.0 | 5 | 12/26/2017 16:24 | WG1055878 |
| C28-C40 Oil Range | 374 | | 20.0 | 5 | 12/26/2017 16:24 | WG1055878 |
| *(S) o-Terphenyl* | *69.5* | | *18.0-148* | | *12/26/2017 16:24* | WG1055878 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 83.9 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 33000 | | 1000 | 100 | 12/18/2017 21:51 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00151 | | 0.000500 | 1 | 12/19/2017 02:57 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 02:57 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 02:57 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 02:57 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 02:57 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *98.4* | | *77.0-120* | | *12/19/2017 02:57* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *99.4* | | *75.0-128* | | *12/19/2017 02:57* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 12/26/2017 15:15 | WG1055878 |
| C28-C40 Oil Range | ND | | 4.00 | 1 | 12/26/2017 15:15 | WG1055878 |
| *(S) o-Terphenyl* | *37.6* | | *18.0-148* | | *12/26/2017 15:15* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 97.4 | | 1 | 12/20/2017 14:00 | WG1055693 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 2930 | | 50.0 | 5 | 12/20/2017 21:33 | WG1055697 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00103 | | 0.000500 | 1 | 12/19/2017 03:20 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 03:20 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 03:20 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 03:20 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 03:20 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *96.0* | | *77.0-120* | | *12/19/2017 03:20* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *97.4* | | *75.0-128* | | *12/19/2017 03:20* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 511 | | 20.0 | 5 | 12/26/2017 17:16 | WG1055878 |
| C28-C40 Oil Range | 680 | | 20.0 | 5 | 12/26/2017 17:16 | WG1055878 |
| *(S) o-Terphenyl* | *66.0* | | *18.0-148* | | *12/26/2017 17:16* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 87.8 | | 1 | 12/20/2017 14:00 | WG1055693 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 6020 | | 100 | 10 | 12/20/2017 21:47 | WG1055697 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00306 | | 0.000500 | 1 | 12/19/2017 03:43 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 03:43 | WG1055011 |
| Ethylbenzene | 0.000700 | | 0.000500 | 1 | 12/19/2017 03:43 | WG1055011 |
| Total Xylene | 0.00182 | | 0.00150 | 1 | 12/19/2017 03:43 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 03:43 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *98.3* | | *77.0-120* | | *12/19/2017 03:43* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *99.1* | | *75.0-128* | | *12/19/2017 03:43* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 5.42 | | 4.00 | 1 | 12/26/2017 15:32 | WG1055878 |
| C28-C40 Oil Range | 9.83 | | 4.00 | 1 | 12/26/2017 15:32 | WG1055878 |
| *(S) o-Terphenyl* | *39.3* | | *18.0-148* | | *12/26/2017 15:32* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3274726-1 12/20/17 15:17

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.001 | | | |

## L958015-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958015-01 12/20/17 15:17 • (DUP) R3274726-3 12/20/17 15:17

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 87.7 | 87.9 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3274726-2 12/20/17 15:17

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3274720-1 12/20/17 14:00

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.001 | | | |

## L958024-05 Original Sample (OS) • Duplicate (DUP)

(OS) L958024-05 12/20/17 14:00 • (DUP) R3274720-3 12/20/17 14:00

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 78.8 | 78.4 | 1 | 1 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3274720-2 12/20/17 14:00

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3274000-1 12/18/17 16:57

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Chloride | U | | 0.795 | 10.0 |

## Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3274000-4 12/18/17 18:43

| Analyte | Original Result | DUP Result mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | | 57.2 | 1 | 7.51 | | 20 |

## L958014-05 Original Sample (OS) • Duplicate (DUP)

(OS) L958014-05 12/18/17 21:17 • (DUP) R3274000-7 12/18/17 21:25

| Analyte | Original Result mg/kg | DUP Result mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 7510 | 8630 | 20 | 13.9 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274000-2 12/18/17 17:06 • (LCSD) R3274000-8 12/18/17 23:55

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 200 | 217 | 212 | 108 | 106 | 90-110 | | | 2.15 | 20 |

## L958010-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-03 12/18/17 19:43 • (MS) R3274000-5 12/18/17 19:52 • (MSD) R3274000-6 12/18/17 20:00

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 500 | 421 | 898 | 886 | 95.4 | 93 | 1 | 80-120 | | | 1.29 | 20 |

## Method Blank (MB)

(MB) R3274859-4 12/20/17 21:19

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Chloride | U | | 0.795 | 10.0 |

## L958327-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958327-01 12/20/17 22:43 • (DUP) R3274859-5 12/20/17 23:26

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 136 | 114 | 1 | 18 | | 20 |

## L958498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958498-01 12/21/17 02:44 • (DUP) R3274859-8 12/21/17 02:58

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 168 | 142 | 1 | 17 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274859-2 12/20/17 18:45 • (LCSD) R3274859-3 12/20/17 18:59

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Chloride | 200 | 213 | 219 | 106 | 110 | 90-110 | | | 3 | 20 |

## L958327-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958327-03 12/20/17 23:54 • (MS) R3274859-6 12/21/17 00:08 • (MSD) R3274859-7 12/21/17 00:22

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Chloride | 500 | 49.0 | 560 | 583 | 102 | 107 | 1 | 80-120 | | | 4 | 20 |

## Method Blank (MB)

(MB) R3275037-5 12/18/17 11:59

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Benzene | U | | 0.000120 | 0.000500 |
| Toluene | U | | 0.000150 | 0.00500 |
| Ethylbenzene | U | | 0.000110 | 0.000500 |
| Total Xylene | U | | 0.000460 | 0.00150 |
| TPH (GC/FID) Low Fraction | U | | 0.0217 | 0.100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | | *77.0-120* |
| *(S) a,a,a-Trifluorotoluene(PID)* | *102* | | | *75.0-128* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-1 12/18/17 09:29 • (LCSD) R3275037-2 12/18/17 10:04

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0511 | 0.0513 | 102 | 103 | 71.0-121 | | | 0.386 | 20 |
| Toluene | 0.0500 | 0.0522 | 0.0522 | 104 | 104 | 72.0-120 | | | 0.0533 | 20 |
| Ethylbenzene | 0.0500 | 0.0541 | 0.0542 | 108 | 108 | 76.0-121 | | | 0.0987 | 20 |
| Total Xylene | 0.150 | 0.159 | 0.158 | 106 | 105 | 75.0-124 | | | 0.819 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *101* | *101* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *100* | *101* | *75.0-128* | | | | |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-3 12/18/17 10:27 • (LCSD) R3275037-4 12/18/17 10:50

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 4.69 | 4.59 | 85.3 | 83.4 | 70.0-136 | | | 2.23 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *101* | *101* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *109* | *109* | *75.0-128* | | | | |

## L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-6 12/19/17 04:30 • (MSD) R3275037-7 12/19/17 04:53

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 6.48 | 22.0 | 22.3 | 62.0 | 63.3 | 500 | 10.0-146 | | | 1.47 | 29 |
| Toluene | 0.0500 | 77.0 | 90.6 | 92.4 | 54.6 | 61.9 | 500 | 10.0-143 | | | 1.98 | 30 |
| Ethylbenzene | 0.0500 | 38.0 | 56.6 | 58.1 | 74.5 | 80.3 | 500 | 10.0-147 | | | 2.49 | 31 |
| Total Xylene | 0.150 | 153 | 223 | 228 | 93.3 | 99.9 | 500 | 10.0-149 | J5 J6 | J5 | 2.17 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *87.3* | *87.3* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *98.3* | *98.7* | | *75.0-128* | | | | |

## L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-8 12/19/17 05:16 • (MSD) R3275037-9 12/19/17 05:39

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 3210 | 4440 | 4510 | 44.8 | 47.2 | 500 | 10.0-147 | | | 1.46 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *90.6* | *89.7* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *100* | *100* | | *75.0-128* | | | | |

## Method Blank (MB)

(MB) R3275770-3 12/26/17 11:19

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *92.9* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275770-2 12/26/17 11:01 • (LCSD) R3275770-1 12/26/17 10:33

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 51.7 | 44.9 | 86.1 | 74.8 | 50.0-150 | | | 14.1 | 20 |
| *(S) o-Terphenyl* | | | | *98.2* | *92.7* | *18.0-148* | | | | |

## L958015-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958015-02 12/26/17 16:24 • (MS) R3275770-4 12/26/17 16:42 • (MSD) R3275770-5 12/26/17 16:59

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 402 | 412 | 574 | 17.3 | 287 | 5 | 50.0-150 | V | J3 V | 32.8 | 20 |
| *(S) o-Terphenyl* | | | | | *71.5* | *69.0* | | *18.0-148* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nevada | TN-03-2002-34 |
| Alaska | UST-080 | New Hampshire | 2975 |
| Arizona | AZ0612 | New Jersey–NELAP | TN002 |
| Arkansas | 88-0469 | New Mexico | TN00003 |
| California | 01157CA | New York | 11742 |
| Colorado | TN00003 | North Carolina | Env375 |
| Connecticut | PH-0197 | North Carolina [1] | DW21704 |
| Florida | E87487 | North Carolina [2] | 41 |
| Georgia | NELAP | North Dakota | R-140 |
| Georgia [1] | 923 | Ohio–VAP | CL0069 |
| Idaho | TN00003 | Oklahoma | 9915 |
| Illinois | 200008 | Oregon | TN200002 |
| Indiana | C-TN-01 | Pennsylvania | 68-02979 |
| Iowa | 364 | Rhode Island | 221 |
| Kansas | E-10277 | South Carolina | 84004 |
| Kentucky [1] | 90010 | South Dakota | n/a |
| Kentucky [2] | 16 | Tennessee [14] | 2006 |
| Louisiana | AI30792 | Texas | T 104704245-07-TX |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | 6157585858 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 109 |
| Minnesota | 047-999-395 | Washington | C1915 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |
| Nebraska | NE-OS-15-05 | | |

## Third Party & Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | S-67674 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



XTO ENERGY
Western Division

| | | |
|---|---|---|
| Quote Number | Page 1 of 1 | |
| XTO Contact: Kyle Littrell | XTO Contact Phone #: 1-970-317-1867 | |
| Email Results to: Kyle_Littrell@XTOenergy.com; Abaker@LTenv.com | | |
| Well Site/Location: JRU 12 | API Number: 3001527162 | Test Reason: Confirmation Soil Samples |
| Collected By: Brandon Cahoon | Samples on Ice: (Y) / N | Turnaround: ✓ Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Std. 5 Bus. Days (by contract) |
| Company: LT Environmental | QA/QC Requested | |
| Signature: | Gray Areas for Lab Use Only! | Date Needed: |

Analysis: BTEX EPA Method 8021; TPH EPA Method 8015; Chloride EPA Method 300.1

Lab Information: B108

Office Abbreviations: Farmington = FAR; Durango = DUR; Babbhen = BAK; Raton = RAT; Piceance = PC; Roosevelt = RSV; La Barge = LB; Orangeville = OV; Permian = PER

L 45815

| Sample ID | Sample Name | Media | Date | Time | Preservative | No. of Conts. | Sample Number |
|---|---|---|---|---|---|---|---|
| PERRC-121317-1055 | SS1 | S | 12/13/17 | 10:55 | Ice | 1 | -01 |
| PERRC-121317-1050 | SS2 | S | | 10:50 | | | -02 |
| PERRC-121317-1057 | SS3 | S | | 10:57 | | | -03 |
| PERRC-121317-1059 | SS4 | S | | 10:59 | | | -04 |
| PERRC-121317-1101 | SS5 | S | | 11:01 | | | -05 |

AKE ARW 12/14/17

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: (Signature) | Date: 12/14/17 | Time: 9:30 | Received By: (Signature) | Number of Bottles | Sample Condition |
| Relinquished By: (Signature) | Date: 12/14/17 | Time: 14:30 | Received By: (Signature) | Temperature: 2.1°C | Other Information: OK |
| Relinquished By: (Signature) | Date: | Time: | Received for Lab by: (Signature) | Date: 12/15/17 Time: 0843 | |

Comments: Roll

count = 5/102

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

# ESC LAB SCIENCES
## Cooler Receipt Form

| | | |
|---|---|---|
| Client: XTORNM | SDG# | L958015 |
| Cooler Received/Opened On: 12/15/17 | Temperature: | |
| Received by : Troy Dunlap | | |
| Signature: | | |

| Receipt Check List | NP | Yes | No |
|---|---|---|---|
| COC Seal Present / Intact? | ✓ | | |
| COC Signed / Accurate? | | ✓ | |
| Bottles arrive intact? | | ✓ | |
| Correct bottles used? | | ✓ | |
| Sufficient volume sent? | | ✓ | |
| If Applicable | | | |
| VOA Zero headspace? | | | |
| Preservation Correct / Checked? | | | |

# Analytical Report 614850

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**JRU DI 1**

**26-FEB-19**

Collected By: Client





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

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

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

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

26-FEB-19

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

Reference: XENCO Report No(s): **614850**
**JRU DI 1**
Project Address: Delaware Basin

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 614850. 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. 614850 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 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH1 | S | 02-08-19 09:00 | 1 ft | 614850-001 |
| PH1A | S | 02-08-19 09:10 | 5 ft | 614850-002 |
| PH2 | S | 02-08-19 09:30 | 1 ft | 614850-003 |
| PH2A | S | 02-08-19 09:35 | 2 ft | 614850-004 |
| PH3 | S | 02-08-19 10:00 | 1 ft | 614850-005 |
| PH3A | S | 02-08-19 10:10 | 2 ft | 614850-006 |
| PH4 | S | 02-11-19 09:00 | 1 ft | 614850-007 |
| PH4A | S | 02-11-19 09:05 | 2 ft | 614850-008 |
| PH5 | S | 02-11-19 09:40 | 5 ft | 614850-009 |
| PH5A | S | 02-11-19 09:55 | 7 ft | 614850-010 |
| PH6 | S | 02-11-19 10:10 | 2 ft | 614850-011 |
| PH6A | S | 02-11-19 10:25 | 4 ft | 614850-012 |
| PH7 | S | 02-11-19 10:35 | 1 ft | 614850-013 |
| PH7A | S | 02-11-19 10:45 | 3 ft | 614850-014 |
| PH8 | S | 02-11-19 11:05 | 3 ft | 614850-015 |
| PH8A | S | 02-11-19 11:25 | 6 ft | 614850-016 |
| PH9 | S | 02-11-19 12:50 | 1 ft | 614850-017 |
| PH9A | S | 02-11-19 13:45 | 7 ft | 614850-018 |
| PH10 | S | 02-12-19 09:10 | 1 ft | 614850-019 |
| PH10A | S | 02-12-19 09:20 | 2 ft | 614850-020 |
| PH11 | S | 02-12-19 09:30 | 1 ft | 614850-021 |
| PH11A | S | 02-12-19 09:40 | 2 ft | 614850-022 |
| PH12 | S | 02-12-19 09:50 | 1 ft | 614850-023 |
| PH12A | S | 02-12-19 10:50 | 8 ft | 614850-024 |
| PH13 | S | 02-12-19 11:05 | 1 ft | 614850-025 |
| PH13A | S | 02-12-19 11:30 | 4 ft | 614850-026 |
| PH14 | S | 02-12-19 12:40 | 3 ft | 614850-027 |
| PH14A | S | 02-12-19 14:40 | 13 ft | 614850-028 |
| PH15 | S | 02-12-19 14:45 | 1 ft | 614850-029 |
| PH15A | S | 02-12-19 14:55 | 2 ft | 614850-030 |
| PH16 | S | 02-13-19 08:50 | 1 ft | 614850-031 |
| PH16A | S | 02-13-19 08:55 | 2 ft | 614850-032 |
| PH17 | S | 02-13-19 09:30 | 3 ft | 614850-033 |
| PH17A | S | 02-13-19 10:00 | 7 ft | 614850-034 |
| PH18 | S | 02-13-19 10:10 | 1 ft | 614850-035 |
| PH18A | S | 02-13-19 10:15 | 2 ft | 614850-036 |
| PH19 | S | 02-13-19 11:00 | 1 ft | 614850-037 |
| PH19A | S | 02-13-19 11:35 | 4 ft | 614850-038 |
| PH20 | S | 02-13-19 13:20 | 1 ft | 614850-039 |
| PH20A | S | 02-13-19 13:30 | 2 ft | 614850-040 |
| PH21 | S | 02-13-19 14:00 | 3 ft | 614850-041 |
| PH21A | S | 02-13-19 14:05 | 4 ft | 614850-042 |
| PH22 | S | 02-13-19 14:30 | 2 ft | 614850-043 |

# Sample Cross Reference 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | |
|---|---|---|---|---|
| PH22A | S | 02-13-19 15:00 | 6 ft | 614850-044 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI 1***

Project ID:
Work Order Number(s): *614850*

Report Date: *26-FEB-19*
Date Received: *02/18/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3079743 Inorganic Anions by EPA 300
Lab Sample ID 614850-019 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: 614850-009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3080077 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3080174 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3080177 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 614850-020 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 614850-020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 614850-020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 614850-028.

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI 1***

Project ID:
Work Order Number(s): *614850*

Report Date: *26-FEB-19*
Date Received: *02/18/2019*

Batch: LBA-3080181 BTEX by EPA 8021B
Benzene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 614850-035, -036, -037, -038, -039, -040, -041, -042, -043, -044

Lab Sample ID 614850-035 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike.
Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 614850-035, -036, -037, -038, -039, -040, -041, -042, -043, -044.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-001 | | 614850-002 | | 614850-003 | | 614850-004 | | 614850-005 | | 614850-006 | |
| | ***Field Id:*** | PH1 | | PH1A | | PH2 | | PH2A | | PH3 | | PH3A | |
| | ***Depth:*** | 1- ft | | 5- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-08-19 09:00 | | Feb-08-19 09:10 | | Feb-08-19 09:30 | | Feb-08-19 09:35 | | Feb-08-19 10:00 | | Feb-08-19 10:10 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-21-19 12:30 | | Feb-21-19 12:30 | | Feb-21-19 12:30 | | Feb-21-19 12:30 | | Feb-21-19 12:30 | | Feb-21-19 12:30 | |
| | ***Analyzed:*** | Feb-22-19 08:42 | | Feb-22-19 09:01 | | Feb-22-19 09:20 | | Feb-22-19 09:39 | | Feb-22-19 09:58 | | Feb-22-19 10:17 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00403 | 0.00403 | <0.00401 | 0.00401 | <0.00399 | 0.00399 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 09:50 | | Feb-19-19 09:50 | | Feb-19-19 09:50 | | Feb-19-19 09:50 | | Feb-19-19 09:50 | | Feb-19-19 09:50 | |
| | ***Analyzed:*** | Feb-19-19 16:53 | | Feb-19-19 17:33 | | Feb-20-19 08:30 | | Feb-19-19 17:45 | | Feb-19-19 17:52 | | Feb-20-19 08:36 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 2180 | 49.9 | 119 | 50.0 | 21.5 | 4.95 | 513 | 24.8 | 202 | 49.5 | 49.9 | 4.98 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | |
| | ***Analyzed:*** | Feb-21-19 13:29 | | Feb-21-19 14:29 | | Feb-21-19 14:49 | | Feb-21-19 15:09 | | Feb-21-19 15:29 | | Feb-21-19 15:49 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | 196 | 15.0 | 41.6 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | 38.3 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | 234 | 15.0 | 41.6 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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



Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-007 | | 614850-008 | | 614850-009 | | 614850-010 | | 614850-011 | | 614850-012 | |
| | ***Field Id:*** | PH4 | | PH4A | | PH5 | | PH5A | | PH6 | | PH6A | |
| | ***Depth:*** | 1- ft | | 2- ft | | 5- ft | | 7- ft | | 2- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-11-19 09:00 | | Feb-11-19 09:05 | | Feb-11-19 09:40 | | Feb-11-19 09:55 | | Feb-11-19 10:10 | | Feb-11-19 10:25 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | |
| | ***Analyzed:*** | Feb-23-19 02:54 | | Feb-23-19 03:13 | | Feb-23-19 03:32 | | Feb-23-19 04:46 | | Feb-23-19 05:05 | | Feb-23-19 05:24 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00401 | 0.00401 | <0.00399 | 0.00399 | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 09:50 | | Feb-19-19 09:50 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | |
| | ***Analyzed:*** | Feb-19-19 18:04 | | Feb-20-19 08:43 | | Feb-19-19 15:48 | | Feb-19-19 16:17 | | Feb-19-19 16:26 | | Feb-19-19 16:36 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 460 | 49.9 | 191 | 4.99 | 3270 | 49.5 | 210 | 49.5 | 1340 | 49.5 | 272 | 25.0 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | |
| | ***Analyzed:*** | Feb-21-19 16:09 | | Feb-21-19 16:29 | | Feb-21-19 16:48 | | Feb-21-19 17:08 | | Feb-21-19 18:07 | | Feb-21-19 18:27 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-013 | | 614850-014 | | 614850-015 | | 614850-016 | | 614850-017 | | 614850-018 | |
| | ***Field Id:*** | PH7 | | PH7A | | PH8 | | PH8A | | PH9 | | PH9A | |
| | ***Depth:*** | 1- ft | | 3- ft | | 3- ft | | 6- ft | | 1- ft | | 7- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-11-19 10:35 | | Feb-11-19 10:45 | | Feb-11-19 11:05 | | Feb-11-19 11:25 | | Feb-11-19 12:50 | | Feb-11-19 13:45 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | | Feb-22-19 13:30 | |
| | ***Analyzed:*** | Feb-23-19 05:43 | | Feb-23-19 06:02 | | Feb-23-19 06:21 | | Feb-23-19 06:40 | | Feb-23-19 06:59 | | Feb-23-19 07:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | |
| | ***Analyzed:*** | Feb-19-19 16:46 | | Feb-19-19 17:15 | | Feb-19-19 17:24 | | Feb-19-19 17:34 | | Feb-19-19 17:43 | | Feb-19-19 17:53 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 933 | 24.8 | 448 | 49.8 | 860 | 24.9 | 206 | 24.8 | 2960 | 49.9 | 75.0 | 24.9 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-21-19 07:00 | |
| | ***Analyzed:*** | Feb-21-19 18:46 | | Feb-21-19 19:06 | | Feb-21-19 19:25 | | Feb-21-19 19:45 | | Feb-21-19 20:04 | | Feb-21-19 20:24 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-019 | | 614850-020 | | 614850-021 | | 614850-022 | | 614850-023 | | 614850-024 | |
| | ***Field Id:*** | PH10 | | PH10A | | PH11 | | PH11A | | PH12 | | PH12A | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 8- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-12-19 09:10 | | Feb-12-19 09:20 | | Feb-12-19 09:30 | | Feb-12-19 09:40 | | Feb-12-19 09:50 | | Feb-12-19 10:50 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 13:30 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | |
| | ***Analyzed:*** | Feb-23-19 07:37 | | Feb-23-19 10:26 | | Feb-23-19 10:45 | | Feb-23-19 11:04 | | Feb-23-19 11:23 | | Feb-23-19 11:42 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | |
| | ***Analyzed:*** | Feb-19-19 18:03 | | Feb-19-19 18:32 | | Feb-19-19 18:41 | | Feb-19-19 19:10 | | Feb-19-19 19:20 | | Feb-19-19 19:30 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 1460 | 50.0 | 380 | 50.3 | 440 | 49.9 | 2460 | 50.0 | 115 | 24.9 | 113 | 24.8 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-21-19 07:00 | | Feb-21-19 07:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | |
| | ***Analyzed:*** | Feb-21-19 20:44 | | Feb-21-19 21:03 | | Feb-19-19 13:23 | | Feb-19-19 14:21 | | Feb-19-19 14:41 | | Feb-19-19 15:01 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | 15.8 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | 15.8 | 15.0 | <15.0 | 15.0 |

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-025 | | 614850-026 | | 614850-027 | | 614850-028 | | 614850-029 | | 614850-030 | |
| | ***Field Id:*** | PH13 | | PH13A | | PH14 | | PH14A | | PH15 | | PH15A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 3- ft | | 13- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-12-19 11:05 | | Feb-12-19 11:30 | | Feb-12-19 12:40 | | Feb-12-19 14:40 | | Feb-12-19 14:45 | | Feb-12-19 14:55 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | |
| | ***Analyzed:*** | Feb-23-19 12:01 | | Feb-23-19 12:20 | | Feb-23-19 12:39 | | Feb-23-19 12:58 | | Feb-23-19 13:17 | | Feb-23-19 14:31 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 12:40 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | |
| | ***Analyzed:*** | Feb-19-19 19:39 | | Feb-19-19 19:49 | | Feb-19-19 19:58 | | Feb-19-19 20:08 | | Feb-19-19 19:09 | | Feb-19-19 18:50 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 994 | 24.9 | 89.3 | 49.9 | 2320 | 25.0 | 69.6 | 25.0 | 43.2 | 24.8 | 86.1 | 5.00 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | |
| | ***Analyzed:*** | Feb-19-19 15:20 | | Feb-19-19 15:40 | | Feb-19-19 15:59 | | Feb-19-19 16:19 | | Feb-19-19 16:38 | | Feb-19-19 16:58 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-031 | | 614850-032 | | 614850-033 | | 614850-034 | | 614850-035 | | 614850-036 | |
| | ***Field Id:*** | PH16 | | PH16A | | PH17 | | PH17A | | PH18 | | PH18A | |
| | ***Depth:*** | 1- ft | | 2- ft | | 3- ft | | 7- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-13-19 08:50 | | Feb-13-19 08:55 | | Feb-13-19 09:30 | | Feb-13-19 10:00 | | Feb-13-19 10:10 | | Feb-13-19 10:15 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 16:00 | | Feb-22-19 17:00 | | Feb-22-19 17:00 | |
| | ***Analyzed:*** | Feb-23-19 14:50 | | Feb-23-19 15:09 | | Feb-23-19 15:28 | | Feb-23-19 15:47 | | Feb-23-19 20:10 | | Feb-23-19 20:29 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00402 | 0.00402 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | |
| | ***Analyzed:*** | Feb-19-19 19:15 | | Feb-19-19 19:21 | | Feb-19-19 19:27 | | Feb-19-19 19:49 | | Feb-19-19 19:55 | | Feb-20-19 15:38 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 76.0 | 24.8 | 167 | 4.98 | 1210 | 49.9 | 65.1 | 25.0 | 196 | 5.00 | 148 | 4.96 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-19-19 11:00 | | Feb-20-19 13:00 | | Feb-20-19 13:00 | |
| | ***Analyzed:*** | Feb-19-19 17:56 | | Feb-19-19 18:16 | | Feb-19-19 18:35 | | Feb-19-19 18:55 | | Feb-20-19 18:57 | | Feb-20-19 19:17 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-037 | | 614850-038 | | 614850-039 | | 614850-040 | | 614850-041 | | 614850-042 | |
| | ***Field Id:*** | PH19 | | PH19A | | PH20 | | PH20A | | PH21 | | PH21A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 2- ft | | 3- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-13-19 11:00 | | Feb-13-19 11:35 | | Feb-13-19 13:20 | | Feb-13-19 13:30 | | Feb-13-19 14:00 | | Feb-13-19 14:05 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 17:00 | | Feb-22-19 17:00 | | Feb-22-19 17:00 | | Feb-22-19 17:00 | | Feb-22-19 17:00 | | Feb-22-19 17:00 | |
| | ***Analyzed:*** | Feb-23-19 20:48 | | Feb-23-19 21:07 | | Feb-23-19 21:26 | | Feb-23-19 21:45 | | Feb-23-19 22:04 | | Feb-23-19 22:23 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00403 | 0.00403 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | | Feb-19-19 13:15 | |
| | ***Analyzed:*** | Feb-20-19 08:49 | | Feb-19-19 20:20 | | Feb-19-19 20:14 | | Feb-19-19 20:38 | | Feb-19-19 20:45 | | Feb-19-19 21:06 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 1200 | 4.97 | 200 | 4.98 | 61.4 | 24.9 | 241 | 24.9 | 1130 | 5.00 | 230 | 5.01 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-20-19 13:00 | | Feb-20-19 13:00 | | Feb-20-19 13:00 | | Feb-20-19 13:00 | | Feb-18-19 15:00 | | Feb-18-19 15:00 | |
| | ***Analyzed:*** | Feb-20-19 20:16 | | Feb-20-19 20:36 | | Feb-20-19 20:56 | | Feb-20-19 21:16 | | Feb-19-19 04:11 | | Feb-19-19 04:30 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | 33.4 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | 33.4 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 614850

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Mon Feb-18-19 07:33 am

**Report Date:** 26-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 614850-043 | | 614850-044 | | | | | |
| | ***Field Id:*** | PH22 | | PH22A | | | | | |
| | ***Depth:*** | 2- ft | | 6- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Feb-13-19 14:30 | | Feb-13-19 15:00 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-22-19 17:00 | | Feb-22-19 17:00 | | | | | |
| | ***Analyzed:*** | Feb-23-19 22:42 | | Feb-23-19 23:01 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | | | | |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | | | | |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-19-19 13:15 | | Feb-19-19 13:15 | | | | | |
| | ***Analyzed:*** | Feb-19-19 21:12 | | Feb-20-19 08:55 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 502 | 24.8 | 62.4 | 4.98 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-18-19 15:00 | | Feb-18-19 15:00 | | | | | |
| | ***Analyzed:*** | Feb-19-19 04:51 | | Feb-19-19 05:11 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | | | | |

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH1** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-001 | Date Collected: | 02.08.19 09.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 09.50 | Basis: | Wet Weight |
| Seq Number: | 3079738 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2180** | 49.9 | mg/kg | 02.19.19 16.53 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 13.29 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **196** | 15.0 | mg/kg | 02.21.19 13.29 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **38.3** | 15.0 | mg/kg | 02.21.19 13.29 | | 1 |
| **Total TPH** | PHC635 | **234** | 15.0 | mg/kg | 02.21.19 13.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 13.29 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 02.21.19 13.29 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH1** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-001 | Date Collected: | 02.08.19 09.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.22.19 08.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.22.19 08.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.22.19 08.42 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.22.19 08.42 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH1A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-002 Date Collected: 02.08.19 09.10 Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight

Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **119** | 50.0 | mg/kg | 02.19.19 17.33 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 14.29 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **41.6** | 15.0 | mg/kg | 02.21.19 14.29 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 14.29 | U | 1 |
| **Total TPH** | PHC635 | **41.6** | 15.0 | mg/kg | 02.21.19 14.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 14.29 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.21.19 14.29 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH1A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-002 | Date Collected: | 02.08.19 09.10 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.22.19 09.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.22.19 09.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.22.19 09.01 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.22.19 09.01 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH2** Matrix: Soil Date Received:02.18.19 07.33
Lab Sample Id: 614850-003 Date Collected: 02.08.19 09.30 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight
Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **21.5** | 4.95 | mg/kg | 02.20.19 08.30 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight
Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.21.19 14.49 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.21.19 14.49 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.21.19 14.49 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.21.19 14.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.21.19 14.49 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.21.19 14.49 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH2** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-003 | Date Collected: | 02.08.19 09.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.22.19 09.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.22.19 09.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.22.19 09.20 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 02.22.19 09.20 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH2A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-004 Date Collected: 02.08.19 09.35 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight

Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **513** | 24.8 | mg/kg | 02.19.19 17.45 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 15.09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 15.09 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 15.09 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 15.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.21.19 15.09 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.21.19 15.09 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH2A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-004 | Date Collected: | 02.08.19 09.35 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.22.19 09.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.22.19 09.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 02.22.19 09.39 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH3** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-005 Date Collected: 02.08.19 10.00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight

Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **202** | 49.5 | mg/kg | 02.19.19 17.52 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 15.29 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 15.29 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 15.29 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 15.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 15.29 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.21.19 15.29 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH3** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-005 | Date Collected: | 02.08.19 10.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.22.19 09.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.22.19 09.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.22.19 09.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 02.22.19 09.58 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH3A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-006 Date Collected: 02.08.19 10.10 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight

Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **49.9** | 4.98 | mg/kg | 02.20.19 08.36 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 15.49 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 15.49 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 15.49 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 15.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.21.19 15.49 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.21.19 15.49 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH3A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-006 | Date Collected: | 02.08.19 10.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.21.19 12.30 | Basis: | Wet Weight |
| Seq Number: | 3080077 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.22.19 10.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.22.19 10.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.22.19 10.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.22.19 10.17 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH4** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-007 | Date Collected: | 02.11.19 09.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 09.50 | Basis: | Wet Weight |
| Seq Number: | 3079738 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **460** | 49.9 | mg/kg | 02.19.19 18.04 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 16.09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 16.09 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 16.09 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 16.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.21.19 16.09 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.21.19 16.09 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH4** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-007 | Date Collected: | 02.11.19 09.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 02.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 02.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.23.19 02.54 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.23.19 02.54 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH4A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-008 Date Collected: 02.11.19 09.05 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 09.50 Basis: Wet Weight

Seq Number: 3079738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **191** | 4.99 | mg/kg | 02.20.19 08.43 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 16.29 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 16.29 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 16.29 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 16.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.21.19 16.29 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.21.19 16.29 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH4A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-008 | Date Collected: | 02.11.19 09.05 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.23.19 03.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 02.23.19 03.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 03.13 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH5** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-009 | Date Collected: | 02.11.19 09.40 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **3270** | 49.5 | mg/kg | 02.19.19 15.48 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 16.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 16.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 16.48 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 16.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.21.19 16.48 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.21.19 16.48 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH5** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-009 | Date Collected: | 02.11.19 09.40 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 03.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 03.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 02.23.19 03.32 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 03.32 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH5A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-010 | Date Collected: | 02.11.19 09.55 | Sample Depth: | 7 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **210** | 49.5 | mg/kg | 02.19.19 16.17 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.21.19 17.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.21.19 17.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.21.19 17.08 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.21.19 17.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 17.08 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.21.19 17.08 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH5A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-010 | Date Collected: | 02.11.19 09.55 | Sample Depth: | 7 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 04.46 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 04.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 04.46 | |
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 02.23.19 04.46 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH6** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-011 | Date Collected: | 02.11.19 10.10 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1340** | 49.5 | mg/kg | 02.19.19 16.26 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.21.19 18.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.21.19 18.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.21.19 18.07 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.21.19 18.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.21.19 18.07 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.21.19 18.07 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH6** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-011 | Date Collected: | 02.11.19 10.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 05.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 05.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.23.19 05.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 05.05 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH6A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-012 Date Collected: 02.11.19 10.25 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **272** | 25.0 | mg/kg | 02.19.19 16.36 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 18.27 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 18.27 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 18.27 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 18.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 02.21.19 18.27 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 02.21.19 18.27 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH6A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-012 | Date Collected: | 02.11.19 10.25 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.23.19 05.24 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.23.19 05.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.23.19 05.24 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 05.24 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH7** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-013 Date Collected: 02.11.19 10.35 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **933** | 24.8 | mg/kg | 02.19.19 16.46 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 18.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 18.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 18.46 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 18.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.21.19 18.46 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.21.19 18.46 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH7** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-013 | Date Collected: | 02.11.19 10.35 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 05.43 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 05.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.23.19 05.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 05.43 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH7A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-014 Date Collected: 02.11.19 10.45 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **448** | 49.8 | mg/kg | 02.19.19 17.15 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 19.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 19.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 19.06 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 19.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 19.06 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.21.19 19.06 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH7A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-014 | Date Collected: | 02.11.19 10.45 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 06.02 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.23.19 06.02 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 06.02 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH8** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-015 Date Collected: 02.11.19 11.05 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **860** | 24.9 | mg/kg | 02.19.19 17.24 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 19.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 19.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 19.25 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 19.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.21.19 19.25 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.21.19 19.25 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH8** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-015 | Date Collected: | 02.11.19 11.05 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 06.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.23.19 06.21 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.23.19 06.21 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH8A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-016 Date Collected: 02.11.19 11.25 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **206** | 24.8 | mg/kg | 02.19.19 17.34 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 19.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 19.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 19.45 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 19.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.21.19 19.45 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.21.19 19.45 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH8A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-016 | Date Collected: | 02.11.19 11.25 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.23.19 06.40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 06.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 06.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.23.19 06.40 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH9** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-017 | Date Collected: | 02.11.19 12.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2960** | 49.9 | mg/kg | 02.19.19 17.43 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.21.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080092 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.21.19 20.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.21.19 20.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.21.19 20.04 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.21.19 20.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.21.19 20.04 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.21.19 20.04 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH9** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-017 | Date Collected: | 02.11.19 12.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 06.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 06.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 06.59 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 06.59 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH9A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-018 Date Collected: 02.11.19 13.45 Sample Depth: 7 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **75.0** | 24.9 | mg/kg | 02.19.19 17.53 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 20.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 20.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 20.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 20.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.21.19 20.24 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.21.19 20.24 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH9A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-018 | Date Collected: | 02.11.19 13.45 | Sample Depth: | 7 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 07.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 07.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.23.19 07.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.23.19 07.18 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH10** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-019 Date Collected: 02.12.19 09.10 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1460** | 50.0 | mg/kg | 02.19.19 18.03 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 20.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 20.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 20.44 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 20.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.21.19 20.44 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.21.19 20.44 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-019 | Date Collected: | 02.12.19 09.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 13.30 | Basis: | Wet Weight |
| Seq Number: | 3080174 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 07.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 07.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 07.37 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.23.19 07.37 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH10A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-020 Date Collected: 02.12.19 09.20 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **380** | 50.3 | mg/kg | 02.19.19 18.32 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.21.19 07.00 Basis: Wet Weight

Seq Number: 3080092

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.21.19 21.03 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.21.19 21.03 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.21.19 21.03 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.21.19 21.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 02.21.19 21.03 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.21.19 21.03 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-020 | Date Collected: | 02.12.19 09.20 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 10.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 10.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 02.23.19 10.26 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.23.19 10.26 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH11** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-021 Date Collected: 02.12.19 09.30 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **440** | 49.9 | mg/kg | 02.19.19 18.41 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 13.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 13.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 13.23 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 13.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 02.19.19 13.23 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 02.19.19 13.23 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-021 | Date Collected: | 02.12.19 09.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.23.19 10.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.23.19 10.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.23.19 10.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 10.45 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH11A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-022 Date Collected: 02.12.19 09.40 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2460** | 50.0 | mg/kg | 02.19.19 19.10 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.19.19 14.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.19.19 14.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.19.19 14.21 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.19.19 14.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.19.19 14.21 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.19.19 14.21 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-022 | Date Collected: | 02.12.19 09.40 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 11.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 11.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 11.04 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 11.04 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH12** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-023 Date Collected: 02.12.19 09.50 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **115** | 24.9 | mg/kg | 02.19.19 19.20 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 14.41 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **15.8** | 15.0 | mg/kg | 02.19.19 14.41 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 14.41 | U | 1 |
| **Total TPH** | PHC635 | **15.8** | 15.0 | mg/kg | 02.19.19 14.41 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.19.19 14.41 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.19.19 14.41 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-023 | Date Collected: | 02.12.19 09.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 11.23 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 11.23 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 11.23 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH12A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-024 Date Collected: 02.12.19 10.50 Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **113** | 24.8 | mg/kg | 02.19.19 19.30 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 15.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 15.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 15.01 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 15.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 02.19.19 15.01 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 02.19.19 15.01 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-024 | Date Collected: | 02.12.19 10.50 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 11.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 11.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.23.19 11.42 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 11.42 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH13** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-025 Date Collected: 02.12.19 11.05 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **994** | 24.9 | mg/kg | 02.19.19 19.39 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 15.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 15.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 15.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 15.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 02.19.19 15.20 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 02.19.19 15.20 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-025 | Date Collected: | 02.12.19 11.05 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.23.19 12.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 12.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 12.01 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 02.23.19 12.01 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-026 | Date Collected: | 02.12.19 11.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **89.3** | 49.9 | mg/kg | 02.19.19 19.49 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.19.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3079727 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 15.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 15.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 15.40 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 15.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.19.19 15.40 | |
| o-Terphenyl | 84-15-1 | 87 | % | 70-135 | 02.19.19 15.40 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-026 | Date Collected: | 02.12.19 11.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 12.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 12.20 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 12.20 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH14** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-027 Date Collected: 02.12.19 12.40 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 12.40 Basis: Wet Weight

Seq Number: 3079743

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2320** | 25.0 | mg/kg | 02.19.19 19.58 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 15.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 15.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 15.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 15.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.19.19 15.59 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.19.19 15.59 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-027 | Date Collected: | 02.12.19 12.40 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 12.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 12.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 02.23.19 12.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 12.39 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-028 | Date Collected: | 02.12.19 14.40 | Sample Depth: | 13 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 12.40 | Basis: | Wet Weight |
| Seq Number: | 3079743 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **69.6** | 25.0 | mg/kg | 02.19.19 20.08 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.19.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3079727 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 16.19 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 16.19 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 16.19 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 16.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 16.19 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.19.19 16.19 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-028 | Date Collected: | 02.12.19 14.40 | Sample Depth: | 13 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 12.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 12.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 141 | % | 70-130 | 02.23.19 12.58 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 95 | % | 70-130 | 02.23.19 12.58 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH15** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-029 Date Collected: 02.12.19 14.45 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **43.2** | 24.8 | mg/kg | 02.19.19 19.09 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 16.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 16.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 16.38 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 16.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 02.19.19 16.38 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 02.19.19 16.38 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-029 | Date Collected: | 02.12.19 14.45 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 13.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 13.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 13.17 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 02.23.19 13.17 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH15A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-030 Date Collected: 02.12.19 14.55 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **86.1** | 5.00 | mg/kg | 02.19.19 18.50 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 16.58 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 16.58 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 16.58 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 16.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 16.58 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.19.19 16.58 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-030 | Date Collected: | 02.12.19 14.55 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 14.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 02.23.19 14.31 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 02.23.19 14.31 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-031 | Date Collected: | 02.13.19 08.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 13.15 | Basis: | Wet Weight |
| Seq Number: | 3079748 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **76.0** | 24.8 | mg/kg | 02.19.19 19.15 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.19.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3079727 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 17.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 17.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 17.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 17.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 17.56 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.19.19 17.56 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-031 | Date Collected: | 02.13.19 08.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.23.19 14.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 14.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 14.50 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.23.19 14.50 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-032 | Date Collected: | 02.13.19 08.55 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 13.15 | Basis: | Wet Weight |
| Seq Number: | 3079748 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **167** | 4.98 | mg/kg | 02.19.19 19.21 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.19.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3079727 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.19.19 18.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.19.19 18.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.19.19 18.16 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.19.19 18.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 18.16 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 02.19.19 18.16 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-032 | Date Collected: | 02.13.19 08.55 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 15.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 15.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.23.19 15.09 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 15.09 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH17** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-033 Date Collected: 02.13.19 09.30 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1210** | 49.9 | mg/kg | 02.19.19 19.27 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 18.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 18.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 18.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 18.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.19.19 18.35 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.19.19 18.35 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-033 | Date Collected: | 02.13.19 09.30 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 15.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 15.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 15.28 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 02.23.19 15.28 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH17A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-034 Date Collected: 02.13.19 10.00 Sample Depth: 7 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **65.1** | 25.0 | mg/kg | 02.19.19 19.49 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.19.19 11.00 Basis: Wet Weight

Seq Number: 3079727

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 18.55 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 18.55 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 18.55 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 18.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.19.19 18.55 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.19.19 18.55 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-034 | Date Collected: | 02.13.19 10.00 | Sample Depth: | 7 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3080177 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.23.19 15.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.23.19 15.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 15.47 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.23.19 15.47 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH18** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-035 Date Collected: 02.13.19 10.10 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **196** | 5.00 | mg/kg | 02.19.19 19.55 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.20.19 13.00 Basis: Wet Weight

Seq Number: 3079924

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 18.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.20.19 18.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 18.57 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.20.19 18.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 02.20.19 18.57 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 02.20.19 18.57 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-035 | Date Collected: | 02.13.19 10.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 20.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 20.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 02.23.19 20.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 02.23.19 20.10 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH18A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-036 Date Collected: 02.13.19 10.15 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **148** | 4.96 | mg/kg | 02.20.19 15.38 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.20.19 13.00 Basis: Wet Weight

Seq Number: 3079924

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 19.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.20.19 19.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 19.17 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.20.19 19.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.20.19 19.17 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.20.19 19.17 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-036 | Date Collected: | 02.13.19 10.15 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 20.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 20.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 20.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 02.23.19 20.29 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH19** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-037 Date Collected: 02.13.19 11.00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1200** | 4.97 | mg/kg | 02.20.19 08.49 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.20.19 13.00 Basis: Wet Weight

Seq Number: 3079924

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 20.16 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **33.4** | 15.0 | mg/kg | 02.20.19 20.16 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 20.16 | U | 1 |
| **Total TPH** | PHC635 | **33.4** | 15.0 | mg/kg | 02.20.19 20.16 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 02.20.19 20.16 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 02.20.19 20.16 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-037 | Date Collected: | 02.13.19 11.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.23.19 20.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.23.19 20.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 02.23.19 20.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 20.48 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-038 | Date Collected: | 02.13.19 11.35 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 13.15 | Basis: | Wet Weight |
| Seq Number: | 3079748 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **200** | 4.98 | mg/kg | 02.19.19 20.20 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.20.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3079924 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 20.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.20.19 20.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 20.36 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.20.19 20.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.20.19 20.36 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 02.20.19 20.36 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-038 | Date Collected: | 02.13.19 11.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 21.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 21.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 21.07 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.23.19 21.07 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH20** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-039 Date Collected: 02.13.19 13.20 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **61.4** | 24.9 | mg/kg | 02.19.19 20.14 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.20.19 13.00 Basis: Wet Weight

Seq Number: 3079924

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 20.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.20.19 20.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 20.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.20.19 20.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 02.20.19 20.56 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 02.20.19 20.56 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-039 | Date Collected: | 02.13.19 13.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.23.19 21.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 21.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 02.23.19 21.26 | |
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 21.26 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-040 | Date Collected: | 02.13.19 13.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.19.19 13.15 | Basis: | Wet Weight |
| Seq Number: | 3079748 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **241** | 24.9 | mg/kg | 02.19.19 20.38 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.20.19 13.00 | Basis: | Wet Weight |
| Seq Number: | 3079924 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.20.19 21.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.20.19 21.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.20.19 21.16 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.20.19 21.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.20.19 21.16 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.20.19 21.16 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-040 | Date Collected: | 02.13.19 13.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 21.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 21.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.23.19 21.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 02.23.19 21.45 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH21** Matrix: Soil Date Received:02.18.19 07.33
Lab Sample Id: 614850-041 Date Collected: 02.13.19 14.00 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight
Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1130** | 5.00 | mg/kg | 02.19.19 20.45 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.18.19 15.00 Basis: Wet Weight
Seq Number: 3079622

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 04.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 04.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 04.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 04.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.19.19 04.11 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.19.19 04.11 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH21** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-041 | Date Collected: | 02.13.19 14.00 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 22.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 02.23.19 22.04 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 02.23.19 22.04 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH21A** Matrix: Soil Date Received:02.18.19 07.33

Lab Sample Id: 614850-042 Date Collected: 02.13.19 14.05 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight

Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **230** | 5.01 | mg/kg | 02.19.19 21.06 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.18.19 15.00 Basis: Wet Weight

Seq Number: 3079622

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 04.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 04.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 04.30 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 04.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 04.30 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 02.19.19 04.30 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH21A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-042 | Date Collected: | 02.13.19 14.05 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.23.19 22.23 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.23.19 22.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 22.23 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 02.23.19 22.23 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH22** Matrix: Soil Date Received:02.18.19 07.33
Lab Sample Id: 614850-043 Date Collected: 02.13.19 14.30 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight
Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **502** | 24.8 | mg/kg | 02.19.19 21.12 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.18.19 15.00 Basis: Wet Weight
Seq Number: 3079622

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 04.51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 04.51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 04.51 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 04.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 02.19.19 04.51 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.19.19 04.51 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH22** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-043 | Date Collected: | 02.13.19 14.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.23.19 22.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.23.19 22.42 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 22.42 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 02.23.19 22.42 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH22A** Matrix: Soil Date Received:02.18.19 07.33
Lab Sample Id: 614850-044 Date Collected: 02.13.19 15.00 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.19.19 13.15 Basis: Wet Weight
Seq Number: 3079748

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **62.4** | 4.98 | mg/kg | 02.20.19 08.55 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.18.19 15.00 Basis: Wet Weight
Seq Number: 3079622

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.19.19 05.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.19.19 05.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.19.19 05.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.19.19 05.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.19.19 05.11 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 02.19.19 05.11 | |

# Certificate of Analytical Results 614850

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH22A** | Matrix: | Soil | Date Received: | 02.18.19 07.33 |
| Lab Sample Id: | 614850-044 | Date Collected: | 02.13.19 15.00 | Sample Depth: | 6 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.22.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3080181 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.23.19 23.01 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.23.19 23.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 02.23.19 23.01 | |
| 1,4-Difluorobenzene | 540-36-3 | 115 | % | 70-130 | 02.23.19 23.01 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079738 — Matrix: Solid — Date Prep: 02.19.19
MB Sample Id: 7672054-1-BLK — LCS Sample Id: 7672054-1-BKS — LCSD Sample Id: 7672054-1-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 | 234 | 94 | 253 | 101 | 90-110 | 8 | 20 | mg/kg | 02.19.19 10:04 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079743 — Matrix: Solid — Date Prep: 02.19.19
MB Sample Id: 7672093-1-BLK — LCS Sample Id: 7672093-1-BKS — LCSD Sample Id: 7672093-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 259 | 104 | 259 | 104 | 90-110 | 0 | 20 | mg/kg | 02.19.19 15:28 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079748 — Matrix: Solid — Date Prep: 02.19.19
MB Sample Id: 7672094-1-BLK — LCS Sample Id: 7672094-1-BKS — LCSD Sample Id: 7672094-1-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 | 230 | 92 | 230 | 92 | 90-110 | 0 | 20 | mg/kg | 02.19.19 18:38 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079738 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614844-001 — MS Sample Id: 614844-001 S — MSD Sample Id: 614844-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 29.4 | 250 | 285 | 102 | 297 | 107 | 90-110 | 4 | 20 | mg/kg | 02.19.19 16:34 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079738 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614849-002 — MS Sample Id: 614849-002 S — MSD Sample Id: 614849-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 236 | 250 | 477 | 96 | 496 | 104 | 90-110 | 4 | 20 | mg/kg | 02.19.19 14:54 | |

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079743 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614850-009 — MS Sample Id: 614850-009 S — MSD Sample Id: 614850-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3270 | 248 | 6430 | 1274 | 6440 | 1278 | 90-110 | 0 | 20 | mg/kg | 02.19.19 15:57 | X |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079743 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614850-019 — MS Sample Id: 614850-019 S — MSD Sample Id: 614850-019 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1460 | 250 | 4250 | 1116 | 4240 | 1112 | 90-110 | 0 | 20 | mg/kg | 02.19.19 18:12 | X |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079748 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614850-030 — MS Sample Id: 614850-030 S — MSD Sample Id: 614850-030 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 86.1 | 250 | 352 | 106 | 330 | 98 | 90-110 | 6 | 20 | mg/kg | 02.19.19 18:56 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3079748 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614850-038 — MS Sample Id: 614850-038 S — MSD Sample Id: 614850-038 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 200 | 249 | 428 | 92 | 434 | 94 | 90-110 | 1 | 20 | mg/kg | 02.19.19 20:26 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079622 — Matrix: Solid — Date Prep: 02.18.19
MB Sample Id: 7672047-1-BLK — LCS Sample Id: 7672047-1-BKS — LCSD Sample Id: 7672047-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 1020 | 102 | 872 | 87 | 70-135 | 16 | 20 | mg/kg | 02.18.19 21:34 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1170 | 117 | 979 | 98 | 70-135 | 18 | 20 | mg/kg | 02.18.19 21:34 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 79 | | 125 | | 122 | | 70-135 | % | 02.18.19 21:34 |
| o-Terphenyl | 79 | | 118 | | 105 | | 70-135 | % | 02.18.19 21:34 |

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079727 — Matrix: Solid — Date Prep: 02.19.19
MB Sample Id: 7672124-1-BLK — LCS Sample Id: 7672124-1-BKS — LCSD Sample Id: 7672124-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 905 | 91 | 947 | 95 | 70-135 | 5 | 20 | mg/kg | 02.19.19 12:43 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 902 | 90 | 933 | 93 | 70-135 | 3 | 20 | mg/kg | 02.19.19 12:43 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 96 | | 118 | | 123 | | 70-135 | % | 02.19.19 12:43 |
| o-Terphenyl | 97 | | 115 | | 119 | | 70-135 | % | 02.19.19 12:43 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079924 — Matrix: Solid — Date Prep: 02.20.19
MB Sample Id: 7672196-1-BLK — LCS Sample Id: 7672196-1-BKS — LCSD Sample Id: 7672196-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 942 | 94 | 982 | 98 | 70-135 | 4 | 20 | mg/kg | 02.20.19 15:00 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 952 | 95 | 983 | 98 | 70-135 | 3 | 20 | mg/kg | 02.20.19 15:00 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 125 | | 129 | | 70-135 | % | 02.20.19 15:00 |
| o-Terphenyl | 101 | | 121 | | 124 | | 70-135 | % | 02.20.19 15:00 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3080092 — Matrix: Solid — Date Prep: 02.21.19
MB Sample Id: 7672281-1-BLK — LCS Sample Id: 7672281-1-BKS — LCSD Sample Id: 7672281-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 970 | 97 | 915 | 92 | 70-135 | 6 | 20 | mg/kg | 02.21.19 12:37 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1080 | 108 | 1020 | 102 | 70-135 | 6 | 20 | mg/kg | 02.21.19 12:37 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 103 | | 128 | | 123 | | 70-135 | % | 02.21.19 12:37 |
| o-Terphenyl | 104 | | 119 | | 109 | | 70-135 | % | 02.21.19 12:37 |

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079622 — Matrix: Soil — Date Prep: 02.18.19
Parent Sample Id: 614869-001 — MS Sample Id: 614869-001 S — MSD Sample Id: 614869-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.98 | 997 | 866 | 87 | 944 | 95 | 70-135 | 9 | 20 | mg/kg | 02.18.19 22:34 | |
| Diesel Range Organics (DRO) | 39.3 | 997 | 945 | 91 | 972 | 93 | 70-135 | 3 | 20 | mg/kg | 02.18.19 22:34 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 118 | | 116 | | 70-135 | % | 02.18.19 22:34 |
| o-Terphenyl | 101 | | 102 | | 70-135 | % | 02.18.19 22:34 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079727 — Matrix: Soil — Date Prep: 02.19.19
Parent Sample Id: 614850-021 — MS Sample Id: 614850-021 S — MSD Sample Id: 614850-021 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) | <7.99 | 998 | 964 | 97 | 975 | 98 | 70-135 | 1 | 20 | mg/kg | 02.19.19 13:42 | |
| Diesel Range Organics (DRO) | <8.11 | 998 | 972 | 97 | 993 | 99 | 70-135 | 2 | 20 | mg/kg | 02.19.19 13:42 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | | 121 | | 70-135 | % | 02.19.19 13:42 |
| o-Terphenyl | 114 | | 114 | | 70-135 | % | 02.19.19 13:42 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3079924 — Matrix: Soil — Date Prep: 02.20.19
Parent Sample Id: 614849-001 — MS Sample Id: 614849-001 S — MSD Sample Id: 614849-001 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) | <8.00 | 1000 | 920 | 92 | 936 | 94 | 70-135 | 2 | 20 | mg/kg | 02.20.19 15:59 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 946 | 95 | 963 | 96 | 70-135 | 2 | 20 | mg/kg | 02.20.19 15:59 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 125 | | 125 | | 70-135 | % | 02.20.19 15:59 |
| o-Terphenyl | 122 | | 117 | | 70-135 | % | 02.20.19 15:59 |

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3080092 — Matrix: Soil — Date Prep: 02.21.19
Parent Sample Id: 614850-001 — MS Sample Id: 614850-001 S — MSD Sample Id: 614850-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.99 | 998 | 863 | 86 | 874 | 88 | 70-135 | 1 | 20 | mg/kg | 02.21.19 13:49 | |
| Diesel Range Organics (DRO) | 196 | 998 | 974 | 78 | 995 | 80 | 70-135 | 2 | 20 | mg/kg | 02.21.19 13:49 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 116 | | 115 | | 70-135 | % | 02.21.19 13:49 |
| o-Terphenyl | 105 | | 101 | | 70-135 | % | 02.21.19 13:49 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080077 — Matrix: Solid — Date Prep: 02.21.19
MB Sample Id: 7672326-1-BLK — LCS Sample Id: 7672326-1-BKS — LCSD Sample Id: 7672326-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000387 | 0.101 | 0.124 | 123 | 0.119 | 119 | 70-130 | 4 | 35 | mg/kg | 02.22.19 02:26 | |
| Toluene | <0.000458 | 0.101 | 0.108 | 107 | 0.102 | 102 | 70-130 | 6 | 35 | mg/kg | 02.22.19 02:26 | |
| Ethylbenzene | <0.000568 | 0.101 | 0.102 | 101 | 0.0959 | 96 | 70-130 | 6 | 35 | mg/kg | 02.22.19 02:26 | |
| m,p-Xylenes | <0.00102 | 0.201 | 0.199 | 99 | 0.189 | 95 | 70-130 | 5 | 35 | mg/kg | 02.22.19 02:26 | |
| o-Xylene | <0.000346 | 0.101 | 0.101 | 100 | 0.0962 | 97 | 70-130 | 5 | 35 | mg/kg | 02.22.19 02:26 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 109 | | 110 | | 70-130 | % | 02.22.19 02:26 |
| 4-Bromofluorobenzene | 93 | | 104 | | 104 | | 70-130 | % | 02.22.19 02:26 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080174 — Matrix: Solid — Date Prep: 02.22.19
MB Sample Id: 7672387-1-BLK — LCS Sample Id: 7672387-1-BKS — LCSD Sample Id: 7672387-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000388 | 0.101 | 0.116 | 115 | 0.119 | 119 | 70-130 | 3 | 35 | mg/kg | 02.22.19 22:49 | |
| Toluene | <0.000459 | 0.101 | 0.0999 | 99 | 0.101 | 101 | 70-130 | 1 | 35 | mg/kg | 02.22.19 22:49 | |
| Ethylbenzene | <0.000569 | 0.101 | 0.0941 | 93 | 0.0950 | 95 | 70-130 | 1 | 35 | mg/kg | 02.22.19 22:49 | |
| m,p-Xylenes | <0.00102 | 0.202 | 0.188 | 93 | 0.190 | 95 | 70-130 | 1 | 35 | mg/kg | 02.22.19 22:49 | |
| o-Xylene | <0.000347 | 0.101 | 0.0944 | 93 | 0.0952 | 95 | 70-130 | 1 | 35 | mg/kg | 02.22.19 22:49 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 110 | | 110 | | 70-130 | % | 02.22.19 22:49 |
| 4-Bromofluorobenzene | 95 | | 102 | | 102 | | 70-130 | % | 02.22.19 22:49 |

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

# QC Summary 614850



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080177 — Matrix: Solid — Date Prep: 02.22.19
MB Sample Id: 7672390-1-BLK — LCS Sample Id: 7672390-1-BKS — LCSD Sample Id: 7672390-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0994 | 0.120 | 121 | 0.113 | 112 | 70-130 | 6 | 35 | mg/kg | 02.23.19 08:33 | |
| Toluene | <0.000453 | 0.0994 | 0.101 | 102 | 0.0961 | 95 | 70-130 | 5 | 35 | mg/kg | 02.23.19 08:33 | |
| Ethylbenzene | <0.000561 | 0.0994 | 0.0952 | 96 | 0.0900 | 89 | 70-130 | 6 | 35 | mg/kg | 02.23.19 08:33 | |
| m,p-Xylenes | <0.00101 | 0.199 | 0.189 | 95 | 0.179 | 89 | 70-130 | 5 | 35 | mg/kg | 02.23.19 08:33 | |
| o-Xylene | <0.000342 | 0.0994 | 0.0953 | 96 | 0.0912 | 90 | 70-130 | 4 | 35 | mg/kg | 02.23.19 08:33 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 108 | | 111 | | 111 | | 70-130 | % | 02.23.19 08:33 |
| 4-Bromofluorobenzene | 97 | | 101 | | 102 | | 70-130 | % | 02.23.19 08:33 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080181 — Matrix: Solid — Date Prep: 02.22.19
MB Sample Id: 7672392-1-BLK — LCS Sample Id: 7672392-1-BKS — LCSD Sample Id: 7672392-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000385 | 0.100 | 0.120 | 120 | 0.115 | 116 | 70-130 | 4 | 35 | mg/kg | 02.23.19 18:18 | |
| Toluene | <0.000456 | 0.100 | 0.104 | 104 | 0.0983 | 99 | 70-130 | 6 | 35 | mg/kg | 02.23.19 18:18 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0977 | 98 | 0.0929 | 93 | 70-130 | 5 | 35 | mg/kg | 02.23.19 18:18 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.195 | 98 | 0.185 | 93 | 70-130 | 5 | 35 | mg/kg | 02.23.19 18:18 | |
| o-Xylene | <0.000344 | 0.100 | 0.0976 | 98 | 0.0929 | 93 | 70-130 | 5 | 35 | mg/kg | 02.23.19 18:18 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 110 | | 111 | | 70-130 | % | 02.23.19 18:18 |
| 4-Bromofluorobenzene | 94 | | 101 | | 103 | | 70-130 | % | 02.23.19 18:18 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080077 — Matrix: Soil — Date Prep: 02.21.19
Parent Sample Id: 614845-023 — MS Sample Id: 614845-023 S — MSD Sample Id: 614845-023 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.108 | 108 | 0.112 | 112 | 70-130 | 4 | 35 | mg/kg | 02.22.19 03:04 | |
| Toluene | 0.000709 | 0.100 | 0.0890 | 88 | 0.0897 | 89 | 70-130 | 1 | 35 | mg/kg | 02.22.19 03:04 | |
| Ethylbenzene | <0.000567 | 0.100 | 0.0754 | 75 | 0.0701 | 70 | 70-130 | 7 | 35 | mg/kg | 02.22.19 03:04 | |
| m,p-Xylenes | 0.00564 | 0.201 | 0.147 | 70 | 0.136 | 65 | 70-130 | 8 | 35 | mg/kg | 02.22.19 03:04 | X |
| o-Xylene | 0.000948 | 0.100 | 0.0774 | 76 | 0.0726 | 72 | 70-130 | 6 | 35 | mg/kg | 02.22.19 03:04 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 110 | | 112 | | 70-130 | % | 02.22.19 03:04 |
| 4-Bromofluorobenzene | 112 | | 112 | | 70-130 | % | 02.22.19 03:04 |

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

# QC Summary 614850

## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080174 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 614844-001 — MS Sample Id: 614844-001 S — MSD Sample Id: 614844-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000384 | 0.0998 | 0.100 | 100 | 0.102 | 102 | 70-130 | 2 | 35 | mg/kg | 02.22.19 23:27 | |
| Toluene | <0.000455 | 0.0998 | 0.0856 | 86 | 0.0868 | 87 | 70-130 | 1 | 35 | mg/kg | 02.22.19 23:27 | |
| Ethylbenzene | <0.000564 | 0.0998 | 0.0808 | 81 | 0.0816 | 82 | 70-130 | 1 | 35 | mg/kg | 02.22.19 23:27 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.161 | 81 | 0.163 | 82 | 70-130 | 1 | 35 | mg/kg | 02.22.19 23:27 | |
| o-Xylene | <0.000344 | 0.0998 | 0.0798 | 80 | 0.0805 | 81 | 70-130 | 1 | 35 | mg/kg | 02.22.19 23:27 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 111 | | 112 | | 70-130 | % | 02.22.19 23:27 |
| 4-Bromofluorobenzene | 103 | | 104 | | 70-130 | % | 02.22.19 23:27 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080177 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 614850-020 — MS Sample Id: 614850-020 S — MSD Sample Id: 614850-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0996 | 0.0862 | 87 | 0.0216 | 22 | 70-130 | 120 | 35 | mg/kg | 02.23.19 09:11 | XF |
| Toluene | <0.000454 | 0.0996 | 0.0752 | 76 | 0.0320 | 32 | 70-130 | 81 | 35 | mg/kg | 02.23.19 09:11 | XF |
| Ethylbenzene | <0.000563 | 0.0996 | 0.0676 | 68 | 0.0403 | 40 | 70-130 | 51 | 35 | mg/kg | 02.23.19 09:11 | XF |
| m,p-Xylenes | <0.00101 | 0.199 | 0.135 | 68 | 0.0810 | 41 | 70-130 | 50 | 35 | mg/kg | 02.23.19 09:11 | XF |
| o-Xylene | <0.000343 | 0.0996 | 0.0695 | 70 | 0.0383 | 38 | 70-130 | 58 | 35 | mg/kg | 02.23.19 09:11 | XF |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 111 | | 103 | | 70-130 | % | 02.23.19 09:11 |
| 4-Bromofluorobenzene | 107 | | 121 | | 70-130 | % | 02.23.19 09:11 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080181 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 614850-035 — MS Sample Id: 614850-035 S — MSD Sample Id: 614850-035 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.0599 | 60 | 0.0975 | 98 | 70-130 | 48 | 35 | mg/kg | 02.23.19 18:56 | XF |
| Toluene | <0.000457 | 0.100 | 0.0689 | 69 | 0.0827 | 83 | 70-130 | 18 | 35 | mg/kg | 02.23.19 18:56 | X |
| Ethylbenzene | <0.000566 | 0.100 | 0.0670 | 67 | 0.0739 | 74 | 70-130 | 10 | 35 | mg/kg | 02.23.19 18:56 | X |
| m,p-Xylenes | <0.00401 | 0.200 | 0.131 | 66 | 0.148 | 74 | 70-130 | 12 | 35 | mg/kg | 02.23.19 18:56 | X |
| o-Xylene | <0.000345 | 0.100 | 0.0637 | 64 | 0.0738 | 74 | 70-130 | 15 | 35 | mg/kg | 02.23.19 18:56 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 110 | | 70-130 | % | 02.23.19 18:56 |
| 4-Bromofluorobenzene | 107 | | 104 | | 70-130 | % | 02.23.19 18:56 |

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

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# Chain of Custody

Work Order No: 614850

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: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | Abaker@LTenv.com/Ggreen@LTenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 | Turn Around | |
| Project Number: | | Routine | ☒ |
| P.O. Number: | 2RP-3524 / 3046 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.3 / 0.2 | Thermometer ID | IR |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.1 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH1 | S | 02/08/19 | 0900 | 1' | 1 | X | X | X |
| PH1a | S | 02/08/19 | 0910 | 5' | 1 | X | X | X |
| PH2 | S | 02/08/19 | 0930 | 1' | 1 | X | X | X |
| PH2a | S | 02/08/19 | 0935 | 2' | 1 | X | X | X |
| PH3 | S | 02/08/19 | 1000 | 1' | 1 | X | X | X |
| PH3a | S | 02/08/19 | 1010 | 2' | 1 | X | X | X |
| PH4 | S | 02/11/19 | 0900 | 1' | 1 | X | X | X |
| PH4a | S | 02/11/19 | 0905 | 2' | 1 | X | X | X |
| PH5 | S | 02/11/19 | 0940 | 5' | 1 | X | X | X |
| PH5a | S | 02/11/19 | 0955 | 7' | 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

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

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
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# Chain of Custody

Work Order No: le14850

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 2 of 5

| | | | |
|---|---|---|---|
| Project Manager: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | Abaker@LTenv.com/Ggreen@LTenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 | Turn Around | |
| Project Number: | | Routine | ☒ |
| P.O. Number: | 2RP-3524/3064 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 0.3/0.2 | Thermometer ID: | IR6 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.1 | |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH6 | S | 02/11/19 | 1010 | 2' | 1 | X | X | X |
| PH6a | S | 02/11/19 | 1025 | 4' | 1 | X | X | X |
| PH7 | S | 02/11/19 | 1035 | 1' | 1 | X | X | X |
| PH7a | S | 02/11/19 | 1045 | 3' | 1 | X | X | X |
| PH8 | S | 02/11/19 | 1105 | 3' | 1 | X | X | X |
| PH8a | S | 02/11/19 | 1125 | 6' | 1 | X | X | X |
| PH9 | S | 02/11/19 | 1250 | 1' | 1 | X | X | X |
| PH9a | S | 02/11/19 | 1345 | 7' | 1 | X | X | X |
| PH10 | S | 02/12/19 | 0910 | 1' | 1 | X | X | X |
| PH10a | S | 02/12/19 | 0920 | 2' | 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

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 02/14/19 - 1515 | 2 | | 2/18/19 0733 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
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# Chain of Custody

Work Order No: 614850

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: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | Abaker@LTenv.com/Ggreen@LTenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 7 | Turn Around | |
| Project Number: | | Routine | ☒ |
| P.O. Number: | 2RP-3524/3046 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.3/0.2 | Thermometer ID: | 1E |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.1 |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH11 | S | 02/12/19 | 0930 | 1' | 1 | X | X | X |
| PH11a | S | 02/12/19 | 0940 | 2' | 1 | X | X | X |
| PH12 | S | 02/12/19 | 0950 | 1' | 1 | X | X | X |
| PH12a | S | 02/12/19 | 1050 | 8' | 1 | X | X | X |
| PH13 | S | 02/12/19 | 1105 | 1' | 1 | X | X | X |
| PH13a | S | 02/12/19 | 1130 | 4' | 1 | X | X | X |
| PH14 | S | 02/12/19 | 1240 | 3' | 1 | X | X | X |
| PH14a | S | 02/12/19 | 1440 | 13' | 1 | X | X | X |
| PH15 | S | 02/12/19 | 1445 | 1' | 1 | X | X | X |
| PH15a | S | 02/12/19 | 1455 | 2' | 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

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | Garrett Green | | 02/14/19 - 1515 | 2 | | 2/18/19 0933 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 614950

XENCO LABORATORIES

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Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page 4 of 5

| | | | |
|---|---|---|---|
| Project Manager: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | Abaker@ltenv.com / bgreen@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 7 | Turn Around | |
| Project Number: | | Routine | X |
| P.O. Number: | ZRP-3524 / 3046 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temperature (°C): | 0-3 / 0.2 | Temp Blank: Yes (No) | Wet Ice: (Yes) No |
| Received Intact: | (Yes) No | Thermometer ID: | 2e |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.1 |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH16 | S | 02/13/19 | 0850 | 1' | 1 | X | X | X |
| PH16a | S | 02/13/19 | 0855 | 2' | 1 | X | X | X |
| PH17 | S | 02/13/19 | 0930 | 3' | 1 | X | X | X |
| PH17a | S | 02/13/19 | 1000 | 7' | 1 | X | X | X |
| PH18 | S | 02/13/19 | 1010 | 1' | 1 | X | X | X |
| PH18a | S | 02/13/19 | 1015 | 2' | 1 | X | X | X |
| PH19 | S | 02/13/19 | 1100 | 1' | 1 | X | X | X |
| PH19a | S | 02/13/19 | 1135 | 4' | 1 | X | X | X |
| PH20 | S | 02/13/19 | 1320 | 1' | 1 | X | X | X |
| PH20a | S | 02/13/19 | 1330 | 2' | 1 | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

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

**Sample Comments**

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

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

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | | | 02/14/19 - 1515 | 2 | | | 2/19/19 0733 |
| 3 | | | | 4 | | | |
| 5 | | | | 6 | | | |

Revised Date 051418 Rev. 2018.1

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# Chain of Custody

Work Order No: 1e14950

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



| | | | |
|---|---|---|---|
| Project Manager: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | Abaker@LTenv.com/Ggreen@LTenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU D17 | Turn Around | |
| Project Number: | | Routine | X |
| P.O. Number: | 2RP-3524/3046 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 0.3/0.2 | Thermometer ID: | IR6 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 | |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH21 | S | 02/13/19 | 1400 | 3' | X | X | X | X |
| PH21a | S | 02/13/19 | 1405 | 4' | X | X | X | X |
| PH22 | S | 02/13/19 | 1430 | 2' | X | X | X | X |
| PH22a | S | 02/13/19 | 1500 | 6' | | 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

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 02/14/19 - 1515 | 2 | | 2/18/19 0733 |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |



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Page 115 of 117




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

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

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02/18/2019 07:33:00 AM

**Work Order #:** 614850

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

**Temperature Measuring device used : R8**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 02/18/2019

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 02/18/2019

Jessica Kramer

# Analytical Report 615312

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**JRU DI 1**

**27-FEB-19**

Collected By: Client






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

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

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

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

27-FEB-19

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

Reference: XENCO Report No(s): **615312**
**JRU DI 1**
Project Address: Delaware Basin

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 615312. 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. 615312 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 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH27 | S | 02-15-19 08:40 | 1 ft | 615312-001 |
| PH27A | S | 02-15-19 09:10 | 2 ft | 615312-002 |
| PH28 | S | 02-15-19 09:35 | 1 ft | 615312-003 |
| PH28A | S | 02-15-19 10:30 | 5 ft | 615312-004 |
| PH29 | S | 02-15-19 14:20 | 1 ft | 615312-005 |
| PH29A | S | 02-15-19 14:30 | 2 ft | 615312-006 |

# CASE NARRATIVE

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

***Project Name: JRU DI 1***

Project ID:
Work Order Number(s): *615312*

Report Date: *27-FEB-19*
Date Received: *02/21/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3080464 BTEX by EPA 8021B

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

# Certificate of Analysis Summary 615312

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Feb-21-19 12:50 pm

**Report Date:** 27-FEB-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 615312-001 | | 615312-002 | | 615312-003 | | 615312-004 | | 615312-005 | | 615312-006 | |
| | ***Field Id:*** | PH27 | | PH27A | | PH28 | | PH28A | | PH29 | | PH29A | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 5- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-15-19 08:40 | | Feb-15-19 09:10 | | Feb-15-19 09:35 | | Feb-15-19 10:30 | | Feb-15-19 14:20 | | Feb-15-19 14:30 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-26-19 15:00 | | Feb-26-19 15:00 | | Feb-26-19 15:00 | | Feb-26-19 15:00 | | Feb-26-19 15:00 | | Feb-26-19 15:00 | |
| | ***Analyzed:*** | Feb-27-19 05:51 | | Feb-27-19 06:10 | | Feb-27-19 06:29 | | Feb-27-19 06:48 | | Feb-27-19 07:07 | | Feb-27-19 07:26 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00199 | 0.00199 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-22-19 15:30 | | Feb-22-19 15:30 | | Feb-22-19 15:30 | | Feb-22-19 15:30 | | Feb-22-19 15:30 | | Feb-22-19 15:30 | |
| | ***Analyzed:*** | Feb-25-19 09:34 | | Feb-25-19 09:40 | | Feb-23-19 01:47 | | Feb-23-19 01:53 | | Feb-25-19 09:46 | | Feb-23-19 01:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 20.3 | 4.99 | 27.1 | 4.99 | 2010 | 49.9 | 264 | 49.9 | 130 | 5.00 | 112 | 4.95 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-22-19 07:00 | | Feb-22-19 07:00 | | Feb-22-19 07:00 | | Feb-22-19 07:00 | | Feb-22-19 07:00 | | Feb-22-19 07:00 | |
| | ***Analyzed:*** | Feb-22-19 18:49 | | Feb-22-19 19:09 | | Feb-22-19 19:28 | | Feb-22-19 19:48 | | Feb-22-19 20:08 | | Feb-22-19 20:28 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH27** Matrix: Soil Date Received:02.21.19 12.50

Lab Sample Id: 615312-001 Date Collected: 02.15.19 08.40 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.22.19 15.30 Basis: Wet Weight

Seq Number: 3080225

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **20.3** | 4.99 | mg/kg | 02.25.19 09.34 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.22.19 07.00 Basis: Wet Weight

Seq Number: 3080226

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 18.49 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 18.49 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 18.49 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 18.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.22.19 18.49 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.22.19 18.49 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH27** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-001 | Date Collected: | 02.15.19 08.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 02.27.19 05.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.27.19 05.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 02.27.19 05.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 02.27.19 05.51 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH27A** Matrix: Soil Date Received:02.21.19 12.50

Lab Sample Id: 615312-002 Date Collected: 02.15.19 09.10 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 02.22.19 15.30 Basis: Wet Weight

Seq Number: 3080225

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **27.1** | 4.99 | mg/kg | 02.25.19 09.40 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.22.19 07.00 Basis: Wet Weight

Seq Number: 3080226

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 19.09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 19.09 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 19.09 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 19.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 02.22.19 19.09 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.22.19 19.09 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH27A** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-002 | Date Collected: | 02.15.19 09.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.27.19 06.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.27.19 06.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 02.27.19 06.10 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 02.27.19 06.10 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH28** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-003 | Date Collected: | 02.15.19 09.35 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.22.19 15.30 | Basis: | Wet Weight |
| Seq Number: | 3080225 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2010** | 49.9 | mg/kg | 02.23.19 01.47 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.22.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080226 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 19.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 19.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 19.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 19.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.22.19 19.28 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 02.22.19 19.28 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH28** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-003 | Date Collected: | 02.15.19 09.35 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.27.19 06.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.27.19 06.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 02.27.19 06.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 129 | % | 70-130 | 02.27.19 06.29 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH28A** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-004 | Date Collected: | 02.15.19 10.30 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.22.19 15.30 | Basis: | Wet Weight |
| Seq Number: | 3080225 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **264** | 49.9 | mg/kg | 02.23.19 01.53 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.22.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080226 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 19.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 19.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 19.48 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 19.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 106 | % | 70-135 | 02.22.19 19.48 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 02.22.19 19.48 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH28A** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-004 | Date Collected: | 02.15.19 10.30 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.27.19 06.48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.27.19 06.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 02.27.19 06.48 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 02.27.19 06.48 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH29** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-005 | Date Collected: | 02.15.19 14.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.22.19 15.30 | Basis: | Wet Weight |
| Seq Number: | 3080225 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **130** | 5.00 | mg/kg | 02.25.19 09.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.22.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080226 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 20.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 20.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 20.08 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 20.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 02.22.19 20.08 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 02.22.19 20.08 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH29** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-005 | Date Collected: | 02.15.19 14.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.27.19 07.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.27.19 07.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 02.27.19 07.07 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 02.27.19 07.07 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH29A** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-006 | Date Collected: | 02.15.19 14.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 02.22.19 15.30 | Basis: | Wet Weight |
| Seq Number: | 3080225 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **112** | 4.95 | mg/kg | 02.23.19 01.59 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.22.19 07.00 | Basis: | Wet Weight |
| Seq Number: | 3080226 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.22.19 20.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.22.19 20.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.22.19 20.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.22.19 20.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.22.19 20.28 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 02.22.19 20.28 | |

# Certificate of Analytical Results 615312

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH29A** | Matrix: | Soil | Date Received: | 02.21.19 12.50 |
| Lab Sample Id: | 615312-006 | Date Collected: | 02.15.19 14.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 02.26.19 15.00 | Basis: | Wet Weight |
| Seq Number: | 3080464 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.27.19 07.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.27.19 07.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 02.27.19 07.26 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 02.27.19 07.26 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 615312



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080225 — Matrix: Solid — Date Prep: 02.22.19
MB Sample Id: 7672347-1-BLK — LCS Sample Id: 7672347-1-BKS — LCSD Sample Id: 7672347-1-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 | 250 | 100 | 257 | 103 | 90-110 | 3 | 20 | mg/kg | 02.23.19 00:19 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080225 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 615310-005 — MS Sample Id: 615310-005 S — MSD Sample Id: 615310-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 209 | 249 | 466 | 103 | 452 | 98 | 90-110 | 3 | 20 | mg/kg | 02.23.19 00:37 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080225 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 615312-006 — MS Sample Id: 615312-006 S — MSD Sample Id: 615312-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 112 | 248 | 357 | 99 | 348 | 95 | 90-110 | 3 | 20 | mg/kg | 02.23.19 02:05 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3080226 — Matrix: Solid — Date Prep: 02.22.19
MB Sample Id: 7672373-1-BLK — LCS Sample Id: 7672373-1-BKS — LCSD Sample Id: 7672373-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 930 | 93 | 991 | 99 | 70-135 | 6 | 20 | mg/kg | 02.22.19 12:17 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 927 | 93 | 980 | 98 | 70-135 | 6 | 20 | mg/kg | 02.22.19 12:17 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 98 | | 122 | | 129 | | 70-135 | % | 02.22.19 12:17 |
| o-Terphenyl | 101 | | 118 | | 125 | | 70-135 | % | 02.22.19 12:17 |

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

# QC Summary 615312



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3080226 — Matrix: Soil — Date Prep: 02.22.19
Parent Sample Id: 614862-001 — MS Sample Id: 614862-001 S — MSD Sample Id: 614862-001 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) | <8.00 | 1000 | 970 | 97 | 951 | 95 | 70-135 | 2 | 20 | mg/kg | 02.22.19 13:16 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 988 | 99 | 986 | 99 | 70-135 | 0 | 20 | mg/kg | 02.22.19 13:16 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 125 | | 125 | | 70-135 | % | 02.22.19 13:16 |
| o-Terphenyl | 119 | | 117 | | 70-135 | % | 02.22.19 13:16 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080464 — Matrix: Solid — Date Prep: 02.26.19
MB Sample Id: 7672577-1-BLK — LCS Sample Id: 7672577-1-BKS — LCSD Sample Id: 7672577-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.121 | 121 | 0.123 | 123 | 70-130 | 2 | 35 | mg/kg | 02.26.19 23:54 | |
| Toluene | <0.000457 | 0.100 | 0.105 | 105 | 0.106 | 106 | 70-130 | 1 | 35 | mg/kg | 02.26.19 23:54 | |
| Ethylbenzene | <0.000567 | 0.100 | 0.100 | 100 | 0.101 | 101 | 70-130 | 1 | 35 | mg/kg | 02.26.19 23:54 | |
| m,p-Xylenes | <0.00102 | 0.201 | 0.200 | 100 | 0.200 | 100 | 70-130 | 0 | 35 | mg/kg | 02.26.19 23:54 | |
| o-Xylene | <0.000346 | 0.100 | 0.100 | 100 | 0.101 | 101 | 70-130 | 1 | 35 | mg/kg | 02.26.19 23:54 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 108 | | 109 | | 70-130 | % | 02.26.19 23:54 |
| 4-Bromofluorobenzene | 97 | | 100 | | 100 | | 70-130 | % | 02.26.19 23:54 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080464 — Matrix: Soil — Date Prep: 02.26.19
Parent Sample Id: 615310-003 — MS Sample Id: 615310-003 S — MSD Sample Id: 615310-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0996 | 0.0977 | 98 | 0.105 | 105 | 70-130 | 7 | 35 | mg/kg | 02.27.19 00:32 | |
| Toluene | <0.000454 | 0.0996 | 0.0814 | 82 | 0.0867 | 87 | 70-130 | 6 | 35 | mg/kg | 02.27.19 00:32 | |
| Ethylbenzene | <0.000563 | 0.0996 | 0.0719 | 72 | 0.0769 | 77 | 70-130 | 7 | 35 | mg/kg | 02.27.19 00:32 | |
| m,p-Xylenes | <0.00101 | 0.199 | 0.145 | 73 | 0.155 | 78 | 70-130 | 7 | 35 | mg/kg | 02.27.19 00:32 | |
| o-Xylene | 0.000393 | 0.0996 | 0.0738 | 74 | 0.0787 | 78 | 70-130 | 6 | 35 | mg/kg | 02.27.19 00:32 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 110 | | 70-130 | % | 02.27.19 00:32 |
| 4-Bromofluorobenzene | 103 | | 102 | | 70-130 | % | 02.27.19 00:32 |

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

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# Chain of Custody

Work Order No: 615312

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: | Adrian Baker | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | |
| Phone: | 432.704.5178 | Email: | ABaker@LTenv.com/ggreen@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRUDI 1 | Turn Around | |
| Project Number: | | Routine | ☑ |
| P.O. Number: | 2RP-3524 / 3046 | Rush: | |
| Sampler's Name: | Garrett Green | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.5/0.4 | Thermometer ID | IR |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.1 |
| 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 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH27 | S | 2/15/19 | 0840 | 1' | 1 | X | X | X |
| PH27a | S | 2/15/19 | 0910 | 2' | 1 | X | X | X |
| PH28 | S | 2/15/19 | 0935 | 1' | 1 | X | X | X |
| PH28a | S | 2/15/19 | 1030 | 5' | 1 | X | X | X |
| PH29 | S | 2/15/19 | 1420 | 1' | 1 | X | X | X |
| PH29a | S | 2/15/19 | 1430 | 2' | 1 | X | X | X |

**ANALYSIS REQUEST**

**Work Order Notes**

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

**Sample Comments**

**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 | Anna Byers | 2/19/19 1730 | 2 Anna Byers | | 2/20/19 1320 |
| 3 | Patrick | 2/21/19 1250 | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02/21/2019 12:50:00 PM

**Work Order #:** 615312

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

**Temperature Measuring device used : R8**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 02/21/2019

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 02/21/2019

Jessica Kramer

# ANALYTICAL REPORT

December 28, 2017

## XTO Energy- Delaware Division

| | |
|---|---|
| Sample Delivery Group: | L958014 |
| Samples Received: | 12/15/2017 |
| Project Number: | 30-015-41074 |
| Description: | JRU DI 1 |

Report To: Kyle Littrell
6401 N Holiday Hill Rd
Suite 200
Midland, TX 79707

Entire Report Reviewed By:

Nancy McLain
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## PERBC-121317-1035 L958014-01 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:35
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 100 | 12/18/17 15:11 | 12/18/17 20:26 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:31 | 12/19/17 00:16 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 14:06 | ACM |

## PERBC-121317-1040 L958014-02 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:40
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 5 | 12/18/17 15:11 | 12/18/17 20:34 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:31 | 12/19/17 00:39 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 14:23 | ACM |

## PERBC-121317-1045 L958014-03 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:45
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 20 | 12/18/17 15:11 | 12/18/17 21:00 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:31 | 12/19/17 01:02 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 14:40 | ACM |

## PERBC-121317-1049 L958014-04 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:49
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 20 | 12/18/17 15:11 | 12/18/17 21:08 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:31 | 12/19/17 01:25 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 1 | 12/23/17 08:36 | 12/26/17 14:58 | ACM |

## PERBC-121317-1055 L958014-05 Solid

Collected by: Bradon Cohorn
Collected date/time: 12/13/17 10:55
Received date/time: 12/15/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1055690 | 1 | 12/20/17 15:05 | 12/20/17 15:17 | JD |
| Wet Chemistry by Method 300.0 | WG1054434 | 20 | 12/18/17 15:11 | 12/18/17 21:17 | DR |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1055011 | 1 | 12/16/17 16:31 | 12/19/17 01:48 | ACE |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1055878 | 5 | 12/23/17 08:36 | 12/26/17 15:50 | ACM |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy McLain
Technical Service Representative

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 80.6 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 36300 | | 1000 | 100 | 12/18/2017 20:26 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00102 | | 0.000500 | 1 | 12/19/2017 00:16 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 00:16 | WG1055011 |
| Ethylbenzene | 0.000887 | | 0.000500 | 1 | 12/19/2017 00:16 | WG1055011 |
| Total Xylene | 0.00230 | | 0.00150 | 1 | 12/19/2017 00:16 | WG1055011 |
| TPH (GC/FID) Low Fraction | 0.286 | | 0.100 | 1 | 12/19/2017 00:16 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *96.2* | | *77.0-120* | | *12/19/2017 00:16* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *97.5* | | *75.0-128* | | *12/19/2017 00:16* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 17.1 | | 4.00 | 1 | 12/26/2017 14:06 | WG1055878 |
| C28-C40 Oil Range | 10.2 | | 4.00 | 1 | 12/26/2017 14:06 | WG1055878 |
| *(S) o-Terphenyl* | *46.9* | | *18.0-148* | | *12/26/2017 14:06* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 75.3 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 1600 | | 50.0 | 5 | 12/18/2017 20:34 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000500 | 1 | 12/19/2017 00:39 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 00:39 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 00:39 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 00:39 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 00:39 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *97.6* | | *77.0-120* | | *12/19/2017 00:39* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *97.5* | | *75.0-128* | | *12/19/2017 00:39* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 7.45 | | 4.00 | 1 | 12/26/2017 14:23 | WG1055878 |
| C28-C40 Oil Range | 8.72 | | 4.00 | 1 | 12/26/2017 14:23 | WG1055878 |
| *(S) o-Terphenyl* | *30.1* | | *18.0-148* | | *12/26/2017 14:23* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 88.4 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 9720 | | 200 | 20 | 12/18/2017 21:00 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000500 | 1 | 12/19/2017 01:02 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 01:02 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 01:02 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 01:02 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 01:02 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *99.7* | | *77.0-120* | | *12/19/2017 01:02* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *99.9* | | *75.0-128* | | *12/19/2017 01:02* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 10.8 | | 4.00 | 1 | 12/26/2017 14:40 | WG1055878 |
| C28-C40 Oil Range | 11.3 | | 4.00 | 1 | 12/26/2017 14:40 | WG1055878 |
| *(S) o-Terphenyl* | *77.2* | | *18.0-148* | | *12/26/2017 14:40* | WG1055878 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 89.5 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 8240 | | 200 | 20 | 12/18/2017 21:08 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000500 | 1 | 12/19/2017 01:25 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 01:25 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 01:25 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 01:25 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 01:25 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *100* | | *77.0-120* | | *12/19/2017 01:25* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *100* | | *75.0-128* | | *12/19/2017 01:25* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 8.04 | | 4.00 | 1 | 12/26/2017 14:58 | WG1055878 |
| C28-C40 Oil Range | ND | | 4.00 | 1 | 12/26/2017 14:58 | WG1055878 |
| *(S) o-Terphenyl* | *52.0* | | *18.0-148* | | *12/26/2017 14:58* | WG1055878 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 86.7 | | 1 | 12/20/2017 15:17 | WG1055690 |

## Wet Chemistry by Method 300.0

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 7510 | | 200 | 20 | 12/18/2017 21:17 | WG1054434 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000500 | 1 | 12/19/2017 01:48 | WG1055011 |
| Toluene | ND | | 0.00500 | 1 | 12/19/2017 01:48 | WG1055011 |
| Ethylbenzene | ND | | 0.000500 | 1 | 12/19/2017 01:48 | WG1055011 |
| Total Xylene | ND | | 0.00150 | 1 | 12/19/2017 01:48 | WG1055011 |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 12/19/2017 01:48 | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *99.6* | | *77.0-120* | | *12/19/2017 01:48* | WG1055011 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *99.2* | | *75.0-128* | | *12/19/2017 01:48* | WG1055011 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result | Qualifier | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 23.5 | | 20.0 | 5 | 12/26/2017 15:50 | WG1055878 |
| C28-C40 Oil Range | 35.7 | | 20.0 | 5 | 12/26/2017 15:50 | WG1055878 |
| *(S) o-Terphenyl* | *75.0* | | *18.0-148* | | *12/26/2017 15:50* | WG1055878 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3274726-1 12/20/17 15:17

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.001 | | | |

## L958015-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958015-01 12/20/17 15:17 • (DUP) R3274726-3 12/20/17 15:17

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 87.7 | 87.9 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3274726-2 12/20/17 15:17

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3274000-1 12/18/17 16:57

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Chloride | U | | 0.795 | 10.0 |

## Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3274000-4 12/18/17 18:43

| Analyte | Original Result | DUP Result mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | | 57.2 | 1 | 7.51 | | 20 |

## L958014-05 Original Sample (OS) • Duplicate (DUP)

(OS) L958014-05 12/18/17 21:17 • (DUP) R3274000-7 12/18/17 21:25

| Analyte | Original Result mg/kg | DUP Result mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 7510 | 8630 | 20 | 13.9 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274000-2 12/18/17 17:06 • (LCSD) R3274000-8 12/18/17 23:55

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 200 | 217 | 212 | 108 | 106 | 90-110 | | | 2.15 | 20 |

## L958010-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-03 12/18/17 19:43 • (MS) R3274000-5 12/18/17 19:52 • (MSD) R3274000-6 12/18/17 20:00

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 500 | 421 | 898 | 886 | 95.4 | 93 | 1 | 80-120 | | | 1.29 | 20 |

## Method Blank (MB)

(MB) R3275037-5 12/18/17 11:59

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Benzene | U | | 0.000120 | 0.000500 |
| Toluene | U | | 0.000150 | 0.00500 |
| Ethylbenzene | U | | 0.000110 | 0.000500 |
| Total Xylene | U | | 0.000460 | 0.00150 |
| TPH (GC/FID) Low Fraction | U | | 0.0217 | 0.100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | | *77.0-120* |
| *(S) a,a,a-Trifluorotoluene(PID)* | *102* | | | *75.0-128* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-1 12/18/17 09:29 • (LCSD) R3275037-2 12/18/17 10:04

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0511 | 0.0513 | 102 | 103 | 71.0-121 | | | 0.386 | 20 |
| Toluene | 0.0500 | 0.0522 | 0.0522 | 104 | 104 | 72.0-120 | | | 0.0533 | 20 |
| Ethylbenzene | 0.0500 | 0.0541 | 0.0542 | 108 | 108 | 76.0-121 | | | 0.0987 | 20 |
| Total Xylene | 0.150 | 0.159 | 0.158 | 106 | 105 | 75.0-124 | | | 0.819 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *101* | *101* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *100* | *101* | *75.0-128* | | | | |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-3 12/18/17 10:27 • (LCSD) R3275037-4 12/18/17 10:50

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 4.69 | 4.59 | 85.3 | 83.4 | 70.0-136 | | | 2.23 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *101* | *101* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *109* | *109* | *75.0-128* | | | | |

## L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-6 12/19/17 04:30 • (MSD) R3275037-7 12/19/17 04:53

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 6.48 | 22.0 | 22.3 | 62.0 | 63.3 | 500 | 10.0-146 | | | 1.47 | 29 |
| Toluene | 0.0500 | 77.0 | 90.6 | 92.4 | 54.6 | 61.9 | 500 | 10.0-143 | | | 1.98 | 30 |
| Ethylbenzene | 0.0500 | 38.0 | 56.6 | 58.1 | 74.5 | 80.3 | 500 | 10.0-147 | | | 2.49 | 31 |
| Total Xylene | 0.150 | 153 | 223 | 228 | 93.3 | 99.9 | 500 | 10.0-149 | J5 J6 | J5 | 2.17 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *87.3* | *87.3* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *98.3* | *98.7* | | *75.0-128* | | | | |

## L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-8 12/19/17 05:16 • (MSD) R3275037-9 12/19/17 05:39

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 3210 | 4440 | 4510 | 44.8 | 47.2 | 500 | 10.0-147 | | | 1.46 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *90.6* | *89.7* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *100* | *100* | | *75.0-128* | | | | |

## Method Blank (MB)

(MB) R3275770-3 12/26/17 11:19

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *92.9* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275770-2 12/26/17 11:01 • (LCSD) R3275770-1 12/26/17 10:33

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 51.7 | 44.9 | 86.1 | 74.8 | 50.0-150 | | | 14.1 | 20 |
| *(S) o-Terphenyl* | | | | *98.2* | *92.7* | *18.0-148* | | | | |

## L958015-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958015-02 12/26/17 16:24 • (MS) R3275770-4 12/26/17 16:42 • (MSD) R3275770-5 12/26/17 16:59

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 402 | 412 | 574 | 17.3 | 287 | 5 | 50.0-150 | V | J3 V | 32.8 | 20 |
| *(S) o-Terphenyl* | | | | | *71.5* | *69.0* | | *18.0-148* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nevada | TN-03-2002-34 |
| Alaska | UST-080 | New Hampshire | 2975 |
| Arizona | AZ0612 | New Jersey–NELAP | TN002 |
| Arkansas | 88-0469 | New Mexico | TN00003 |
| California | 01157CA | New York | 11742 |
| Colorado | TN00003 | North Carolina | Env375 |
| Connecticut | PH-0197 | North Carolina [1] | DW21704 |
| Florida | E87487 | North Carolina [2] | 41 |
| Georgia | NELAP | North Dakota | R-140 |
| Georgia [1] | 923 | Ohio–VAP | CL0069 |
| Idaho | TN00003 | Oklahoma | 9915 |
| Illinois | 200008 | Oregon | TN200002 |
| Indiana | C-TN-01 | Pennsylvania | 68-02979 |
| Iowa | 364 | Rhode Island | 221 |
| Kansas | E-10277 | South Carolina | 84004 |
| Kentucky [1] | 90010 | South Dakota | n/a |
| Kentucky [2] | 16 | Tennessee [14] | 2006 |
| Louisiana | AI30792 | Texas | T 104704245-07-TX |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | 6157585858 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 109 |
| Minnesota | 047-999-395 | Washington | C1915 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |
| Nebraska | NE-OS-15-05 | | |

## Third Party & Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | S-67674 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



**XTO ENERGY Western Division**

| | | |
|---|---|---|
| Quote Number | Page 1 of 1 | |
| XTO Contact: Kyle Littrell | XTO Contact Phone #: 1-970-317-1867 | |
| Email Results to: Kyle_Littrell@XTOenergy.com; Abaker@LTenv.com | | |
| Well Site/Location: JRU DL 1 | API Number: 30-015-44074 | Test Reason: Confirmation Soil Samples |
| Collected By: Braden Cohorn | Samples on Ice (Y/N) | Turnaround: ✓ Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Std. 5 Bus. Days (by contract); Date Needed ___ |
| Company: LT Environmental | QA/QC Requested | |
| Signature: | Gray Areas for Lab Use Only! | |

**Analysis**

| BTEX EPA Method 8021 | TPH EPA Method 8015 | Chloride EPA Method 300.1 |
|---|---|---|
| | | |

**Lab Information**

B109

**Office Abbreviations**
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV
Permian = PER

L9580 4

| Sample ID | Sample Name | Media | Date | Time | Preservative | No. of Conts. | Sample Number |
|---|---|---|---|---|---|---|---|
| PER BC-121317-1035 | SS 1 | S | 12/13/17 | 10:35 | ICE | 1 | -01 |
| PER BC-121317-1040 | SS 2 | S | 12 | 10:40 | | | -02 |
| PER BC-121317-1045 | SS 3 | S | | 10:45 | | | -03 |
| PER BC-121317-1049 | SS 4 | S | | 10:49 | | | -04 |
| PER BC-121317-1055 | SS 5 | S | | 10:55 | | | -05 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| CNG Adv 12/14/17 | | | | | | | |

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: (Signature) | Date: 12/14/17 | Time: 9:30 | Received By: (Signature) | Number of Bottles | Sample Condition: OK |
| Relinquished By: (Signature) | Date: 12/14/17 | Time: 1430 | Received By: (Signature) FedEx | Temperature: 2.9 | Other Information |
| Relinquished By: (Signature) | Date: | Time: | Received for Lab by: (Signature) | Date: 12/15/17 Time: 0845 | |

Comments: toll

* Sample ID will be the office and sampler-date-military time-sampler initials FARM-MMDDYY-1200

Count: 5407

# ESC LAB SCIENCES
## Cooler Receipt Form

| | | |
|---|---|---|
| Client: XTORNM | SDG# | L958014 |
| Cooler Received/Opened On: 12/ 15/17 | Temperature: | |
| Received by : Troy Dunlap | | |
| Signature: | | |

| Receipt Check List | NP | Yes | No |
|---|---|---|---|
| COC Seal Present / Intact? | ✓ | | |
| COC Signed / Accurate? | | ✓ | |
| Bottles arrive intact? | | ✓ | |
| Correct bottles used? | | ✓ | |
| Sufficient volume sent? | | ✓ | |
| If Applicable | | | |
| VOA Zero headspace? | | | |
| Preservation Correct / Checked? | | | |

# Analytical Report 631513

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU DI 1**

**2RP-2440 13046**

**29-JUL-19**

Collected By: Client




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

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

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

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

29-JUL-19

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

Reference: XENCO Report No(s): **631513**
**JRU DI 1**
Project Address: Delaware Basin

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 631513. 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. 631513 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 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 07-17-19 10:40 | 2 ft | 631513-001 |
| PH01A | S | 07-17-19 10:55 | 4 ft | 631513-002 |
| PH02 | S | 07-17-19 11:05 | 1 ft | 631513-003 |
| PH02A | S | 07-17-19 11:35 | 4 ft | 631513-004 |
| PH03 | S | 07-17-19 11:45 | 1 ft | 631513-005 |
| PH03A | S | 07-17-19 12:30 | 4 ft | 631513-006 |
| PH04 | S | 07-17-19 12:40 | 1 ft | 631513-007 |
| PH04A | S | 07-17-19 13:10 | 4 ft | 631513-008 |
| PH05 | S | 07-17-19 13:20 | 1 ft | 631513-009 |
| PH05A | S | 07-17-19 13:50 | 4 ft | 631513-010 |
| PH06 | S | 07-17-19 14:00 | 1 ft | 631513-011 |
| PH06A | S | 07-17-19 14:30 | 4 ft | 631513-012 |
| PH07 | S | 07-17-19 14:40 | 1 ft | 631513-013 |
| PH07A | S | 07-17-19 15:10 | 4 ft | 631513-014 |
| PH08 | S | 07-17-19 15:20 | 1 ft | 631513-015 |
| PH08A | S | 07-17-19 15:50 | 4 ft | 631513-016 |
| PH09 | S | 07-17-19 16:10 | 1 ft | 631513-017 |
| PH09A | S | 07-17-19 16:30 | 4 ft | 631513-018 |
| PH10 | S | 07-17-19 16:50 | 1 ft | 631513-019 |
| PH10A | S | 07-17-19 17:20 | 4 ft | 631513-020 |
| PH11 | S | 07-18-19 09:10 | 1 ft | 631513-021 |
| PH11A | S | 07-18-19 09:50 | 4 ft | 631513-022 |
| PH12 | S | 07-18-19 10:10 | 1 ft | 631513-023 |
| PH12A | S | 07-18-19 10:50 | 4 ft | 631513-024 |
| PH13 | S | 07-18-19 11:10 | 1 ft | 631513-025 |
| PH13A | S | 07-18-19 12:00 | 4 ft | 631513-026 |
| PH14 | S | 07-18-19 12:15 | 1 ft | 631513-027 |
| PH14A | S | 07-18-19 13:00 | 4 ft | 631513-028 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI 1***

Project ID: *2RP-2440 13046*
Work Order Number(s): *631513*

Report Date: *29-JUL-19*
Date Received: *07/19/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3096597 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 631513-007,631513-010,631513-009.

Batch: LBA-3096598 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3096729 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Samples affected are: 7682994-1-BLK,631513-004,631513-005,631513-006,631513-020,631513-008,631513-009,631513-015,631513-017,631513-018,631513-003,631513-007.

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-001 | | 631513-002 | | 631513-003 | | 631513-004 | | 631513-005 | | 631513-006 | |
| | ***Field Id:*** | PH01 | | PH01A | | PH02 | | PH02A | | PH03 | | PH03A | |
| | ***Depth:*** | 2- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 10:40 | | Jul-17-19 10:55 | | Jul-17-19 11:05 | | Jul-17-19 11:35 | | Jul-17-19 11:45 | | Jul-17-19 12:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-24-19 22:55 | | Jul-24-19 23:15 | | Jul-24-19 23:35 | | Jul-24-19 23:55 | | Jul-25-19 00:15 | | Jul-25-19 00:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | |
| | ***Analyzed:*** | Jul-22-19 23:46 | | Jul-23-19 09:28 | | Jul-23-19 09:34 | | Jul-23-19 09:40 | | Jul-23-19 08:32 | | Jul-23-19 09:46 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 121 | 5.00 | 33.7 | 5.02 | <4.96 | 4.96 | 12.0 | 4.97 | 222 | 5.00 | 26.9 | 5.05 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 11:59 | | Jul-27-19 13:11 | | Jul-27-19 13:35 | | Jul-27-19 13:59 | | Jul-27-19 14:23 | | Jul-27-19 14:47 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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



Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-007 | | 631513-008 | | 631513-009 | | 631513-010 | | 631513-011 | | 631513-012 | |
| | ***Field Id:*** | PH04 | | PH04A | | PH05 | | PH05A | | PH06 | | PH06A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 12:40 | | Jul-17-19 13:10 | | Jul-17-19 13:20 | | Jul-17-19 13:50 | | Jul-17-19 14:00 | | Jul-17-19 14:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-25-19 00:55 | | Jul-25-19 01:16 | | Jul-25-19 01:36 | | Jul-25-19 01:56 | | Jul-25-19 17:38 | | Jul-25-19 17:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00403 | 0.00403 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | |
| | ***Analyzed:*** | Jul-23-19 08:51 | | Jul-23-19 09:53 | | Jul-23-19 15:38 | | Jul-23-19 09:59 | | Jul-23-19 10:05 | | Jul-23-19 10:12 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 86.0 | 49.7 | 7.48 | 5.04 | <5.00 | 5.00 | 34.3 | 4.96 | 19.3 | 5.01 | 6.64 | 4.98 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 15:11 | | Jul-27-19 15:35 | | Jul-27-19 15:59 | | Jul-27-19 16:23 | | Jul-27-19 17:11 | | Jul-27-19 17:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-013 | | 631513-014 | | 631513-015 | | 631513-016 | | 631513-017 | | 631513-018 | |
| | ***Field Id:*** | PH07 | | PH07A | | PH08 | | PH08A | | PH09 | | PH09A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 14:40 | | Jul-17-19 15:10 | | Jul-17-19 15:20 | | Jul-17-19 15:50 | | Jul-17-19 16:10 | | Jul-17-19 16:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-25-19 18:19 | | Jul-25-19 18:39 | | Jul-25-19 18:59 | | Jul-25-19 19:19 | | Jul-25-19 19:39 | | Jul-25-19 19:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00397 | 0.00397 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | |
| | ***Analyzed:*** | Jul-23-19 10:18 | | Jul-23-19 10:24 | | Jul-23-19 15:46 | | Jul-23-19 15:41 | | Jul-23-19 10:37 | | Jul-23-19 10:58 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 23.5 | 5.00 | <5.00 | 5.00 | 44.9 | 5.00 | 16.1 | 5.03 | 12.4 | 5.00 | 2600 | 49.8 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 17:58 | | Jul-27-19 18:22 | | Jul-27-19 18:46 | | Jul-27-19 19:10 | | Jul-27-19 19:34 | | Jul-27-19 19:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-019 | | 631513-020 | | 631513-021 | | 631513-022 | | 631513-023 | | 631513-024 | |
| | ***Field Id:*** | PH10 | | PH10A | | PH11 | | PH11A | | PH12 | | PH12A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 16:50 | | Jul-17-19 17:20 | | Jul-18-19 09:10 | | Jul-18-19 09:50 | | Jul-18-19 10:10 | | Jul-18-19 10:50 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | |
| | ***Analyzed:*** | Jul-25-19 20:19 | | Jul-25-19 23:58 | | Jul-26-19 00:18 | | Jul-26-19 10:36 | | Jul-26-19 00:58 | | Jul-26-19 01:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00397 | 0.00397 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00402 | 0.00402 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | |
| | ***Analyzed:*** | Jul-23-19 11:03 | | Jul-23-19 15:47 | | Jul-23-19 11:25 | | Jul-23-19 15:52 | | Jul-23-19 11:35 | | Jul-23-19 15:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.95 | 4.95 | 14.9 | 4.95 | <5.05 | 5.05 | <5.05 | 5.05 | <5.05 | 5.05 | <4.95 | 4.95 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | |
| | ***Analyzed:*** | Jul-27-19 20:21 | | Jul-27-19 20:45 | | Jul-26-19 18:56 | | Jul-26-19 19:20 | | Jul-26-19 19:44 | | Jul-26-19 20:08 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-025 | | 631513-026 | | 631513-027 | | 631513-028 | | | | | | | |
| | ***Field Id:*** | PH13 | | PH13A | | PH14 | | PH14A | | | | | | | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | | | |
| | ***Sampled:*** | Jul-18-19 11:10 | | Jul-18-19 12:00 | | Jul-18-19 12:15 | | Jul-18-19 13:00 | | | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-26-19 01:38 | | Jul-26-19 01:58 | | Jul-26-19 02:18 | | Jul-26-19 02:38 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00401 | 0.00401 | <0.00399 | 0.00399 | | | | | | |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-23-19 11:51 | | Jul-23-19 16:03 | | Jul-23-19 12:08 | | Jul-23-19 16:08 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Chloride | | <5.02 | 5.02 | <4.99 | 4.99 | 14.5 | 5.03 | <4.97 | 4.97 | | | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-26-19 20:32 | | Jul-26-19 20:56 | | Jul-26-19 21:20 | | Jul-26-19 21:43 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-001 | Date Collected: | 07.17.19 10.40 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **121** | 5.00 | mg/kg | 07.22.19 23.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 11.59 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 11.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-001 | Date Collected: | 07.17.19 10.40 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 22.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.24.19 22.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.24.19 22.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-002 | Date Collected: | 07.17.19 10.55 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.7** | 5.02 | mg/kg | 07.23.19 09.28 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 13.11 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 13.11 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-002 | Date Collected: | 07.17.19 10.55 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.24.19 23.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.24.19 23.15 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.24.19 23.15 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-003 | Date Collected: | 07.17.19 11.05 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 07.23.19 09.34 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 13.35 | |
| o-Terphenyl | 84-15-1 | 68 | % | 70-135 | 07.27.19 13.35 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-003 | Date Collected: | 07.17.19 11.05 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 23.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.24.19 23.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 23.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-004 | Date Collected: | 07.17.19 11.35 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.0** | 4.97 | mg/kg | 07.23.19 09.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 13.59 | |
| o-Terphenyl | 84-15-1 | 66 | % | 70-135 | 07.27.19 13.59 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-004 | Date Collected: | 07.17.19 11.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 23.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 23.55 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.24.19 23.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-005 | Date Collected: | 07.17.19 11.45 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **222** | 5.00 | mg/kg | 07.23.19 08.32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.27.19 14.23 | |
| o-Terphenyl | 84-15-1 | 65 | % | 70-135 | 07.27.19 14.23 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-005 | Date Collected: | 07.17.19 11.45 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 00.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.25.19 00.15 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 07.25.19 00.15 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-006 | Date Collected: | 07.17.19 12.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **26.9** | 5.05 | mg/kg | 07.23.19 09.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.27.19 14.47 | |
| o-Terphenyl | 84-15-1 | 65 | % | 70-135 | 07.27.19 14.47 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-006 | Date Collected: | 07.17.19 12.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.25.19 00.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 07.25.19 00.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.25.19 00.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-007 | Date Collected: | 07.17.19 12.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **86.0** | 49.7 | mg/kg | 07.23.19 08.51 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 15.11 | |
| o-Terphenyl | 84-15-1 | 68 | % | 70-135 | 07.27.19 15.11 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-007 | Date Collected: | 07.17.19 12.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 00.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 156 | % | 70-130 | 07.25.19 00.55 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 07.25.19 00.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-008 | Date Collected: | 07.17.19 13.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **7.48** | 5.04 | mg/kg | 07.23.19 09.53 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.27.19 15.35 | |
| o-Terphenyl | 84-15-1 | 67 | % | 70-135 | 07.27.19 15.35 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-008 | Date Collected: | 07.17.19 13.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 01.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 07.25.19 01.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 07.25.19 01.16 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-009 | Date Collected: | 07.17.19 13.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.23.19 15.38 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.27.19 15.59 | |
| o-Terphenyl | 84-15-1 | 66 | % | 70-135 | 07.27.19 15.59 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-009 | Date Collected: | 07.17.19 13.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.25.19 01.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 154 | % | 70-130 | 07.25.19 01.36 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 07.25.19 01.36 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-010 | Date Collected: | 07.17.19 13.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **34.3** | 4.96 | mg/kg | 07.23.19 09.59 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 16.23 | |
| o-Terphenyl | 84-15-1 | 73 | % | 70-135 | 07.27.19 16.23 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-010 | Date Collected: | 07.17.19 13.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 01.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 145 | % | 70-130 | 07.25.19 01.56 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 07.25.19 01.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-011 | Date Collected: | 07.17.19 14.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.3** | 5.01 | mg/kg | 07.23.19 10.05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 17.11 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 17.11 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-011 | Date Collected: | 07.17.19 14.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 17.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 07.25.19 17.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.25.19 17.38 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-012 | Date Collected: | 07.17.19 14.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6.64** | 4.98 | mg/kg | 07.23.19 10.12 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 17.35 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.27.19 17.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-012 | Date Collected: | 07.17.19 14.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 17.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.25.19 17.59 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 07.25.19 17.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-013 | Date Collected: | 07.17.19 14.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.5** | 5.00 | mg/kg | 07.23.19 10.18 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 17.58 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.27.19 17.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-013 | Date Collected: | 07.17.19 14.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 18.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 07.25.19 18.19 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.25.19 18.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-014 | Date Collected: | 07.17.19 15.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.23.19 10.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 18.22 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 18.22 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-014 | Date Collected: | 07.17.19 15.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.25.19 18.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 18.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 07.25.19 18.39 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-015 | Date Collected: | 07.17.19 15.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.9** | 5.00 | mg/kg | 07.23.19 15.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 07.27.19 18.46 | |
| o-Terphenyl | 84-15-1 | 63 | % | 70-135 | 07.27.19 18.46 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-015 | Date Collected: | 07.17.19 15.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 18.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.25.19 18.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.25.19 18.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-016 | Date Collected: | 07.17.19 15.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.1** | 5.03 | mg/kg | 07.23.19 15.41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 19.10 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 19.10 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-016 | Date Collected: | 07.17.19 15.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 19.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.25.19 19.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 94 | % | 70-130 | 07.25.19 19.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-017 | Date Collected: | 07.17.19 16.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.4** | 5.00 | mg/kg | 07.23.19 10.37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 19.34 | |
| o-Terphenyl | 84-15-1 | 69 | % | 70-135 | 07.27.19 19.34 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-017 | Date Collected: | 07.17.19 16.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 19.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 93 | % | 70-130 | 07.25.19 19.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 19.39 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-018 | Date Collected: | 07.17.19 16.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2600** | 49.8 | mg/kg | 07.23.19 10.58 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 19.57 | |
| o-Terphenyl | 84-15-1 | 69 | % | 70-135 | 07.27.19 19.57 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-018 | Date Collected: | 07.17.19 16.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.25.19 19.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 19.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 70-130 | 07.25.19 19.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-019 | Date Collected: | 07.17.19 16.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.23.19 11.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 20.21 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 20.21 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-019 | Date Collected: | 07.17.19 16.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.25.19 20.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 07.25.19 20.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 84 | % | 70-130 | 07.25.19 20.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-020 | Date Collected: | 07.17.19 17.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.9** | 4.95 | mg/kg | 07.23.19 15.47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.27.19 20.45 | |
| o-Terphenyl | 84-15-1 | 67 | % | 70-135 | 07.27.19 20.45 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-020 | Date Collected: | 07.17.19 17.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 23.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.25.19 23.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 70-130 | 07.25.19 23.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-021 | Date Collected: | 07.18.19 09.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 11.25 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.26.19 18.56 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.26.19 18.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-021 | Date Collected: | 07.18.19 09.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 00.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 00.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 07.26.19 00.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-022 | Date Collected: | 07.18.19 09.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 15.52 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 07.26.19 19.20 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 07.26.19 19.20 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-022 | Date Collected: | 07.18.19 09.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 10.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 07.26.19 10.36 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 10.36 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-023 | Date Collected: | 07.18.19 10.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 11.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.26.19 19.44 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.26.19 19.44 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-023 | Date Collected: | 07.18.19 10.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 00.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 00.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 07.26.19 00.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-024 | Date Collected: | 07.18.19 10.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.23.19 15.57 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.26.19 20.08 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 07.26.19 20.08 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-024 | Date Collected: | 07.18.19 10.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 01.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 81 | % | 70-130 | 07.26.19 01.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 07.26.19 01.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-025 | Date Collected: | 07.18.19 11.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.02 | 5.02 | mg/kg | 07.23.19 11.51 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.26.19 20.32 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.26.19 20.32 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-025 | Date Collected: | 07.18.19 11.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 01.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 01.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.26.19 01.38 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-026 | Date Collected: | 07.18.19 12.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 07.23.19 16.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-135 | 07.26.19 20.56 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.26.19 20.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-026 | Date Collected: | 07.18.19 12.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 01.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 70-130 | 07.26.19 01.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 07.26.19 01.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-027 | Date Collected: | 07.18.19 12.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.5** | 5.03 | mg/kg | 07.23.19 12.08 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.26.19 21.20 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.26.19 21.20 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-027 | Date Collected: | 07.18.19 12.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.26.19 02.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 07.26.19 02.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 07.26.19 02.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-028 | Date Collected: | 07.18.19 13.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.97 | 4.97 | mg/kg | 07.23.19 16.08 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 07.26.19 21.43 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 07.26.19 21.43 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-028 | Date Collected: | 07.18.19 13.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.26.19 02.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 02.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 07.26.19 02.38 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Solid — Date Prep: 07.22.19
MB Sample Id: 7682543-1-BLK — LCS Sample Id: 7682543-1-BKS — LCSD Sample Id: 7682543-1-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 | 244 | 98 | 243 | 97 | 90-110 | 0 | 20 | mg/kg | 07.22.19 23:33 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Solid — Date Prep: 07.23.19
MB Sample Id: 7682574-1-BLK — LCS Sample Id: 7682574-1-BKS — LCSD Sample Id: 7682574-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 242 | 97 | 242 | 97 | 90-110 | 0 | 20 | mg/kg | 07.23.19 10:26 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631513-001 — MS Sample Id: 631513-001 S — MSD Sample Id: 631513-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 121 | 250 | 367 | 98 | 368 | 99 | 90-110 | 0 | 20 | mg/kg | 07.22.19 23:52 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631513-005 — MS Sample Id: 631513-005 S — MSD Sample Id: 631513-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 222 | 250 | 470 | 99 | 470 | 99 | 90-110 | 0 | 20 | mg/kg | 07.23.19 08:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631513-017 — MS Sample Id: 631513-017 S — MSD Sample Id: 631513-017 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12.4 | 250 | 269 | 103 | 265 | 101 | 90-110 | 1 | 20 | mg/kg | 07.23.19 10:42 | |

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

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

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

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

# QC Summary 631513

## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3096267 Matrix: Soil Date Prep: 07.23.19
Parent Sample Id: 631513-025 MS Sample Id: 631513-025 S MSD Sample Id: 631513-025 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 0.896 | 251 | 253 | 100 | 251 | 100 | 90-110 | 1 | 20 | mg/kg | 07.23.19 11:57 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096711 Matrix: Solid Date Prep: 07.26.19
MB Sample Id: 7682976-1-BLK LCS Sample Id: 7682976-1-BKS LCSD Sample Id: 7682976-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 907 | 91 | 846 | 85 | 70-135 | 7 | 20 | mg/kg | 07.26.19 12:06 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1050 | 105 | 988 | 99 | 70-135 | 6 | 20 | mg/kg | 07.26.19 12:06 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 78 | | 89 | | 76 | | 70-135 | % | 07.26.19 12:06 |
| o-Terphenyl | 82 | | 103 | | 90 | | 70-135 | % | 07.26.19 12:06 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096729 Matrix: Solid Date Prep: 07.27.19
MB Sample Id: 7682994-1-BLK LCS Sample Id: 7682994-1-BKS LCSD Sample Id: 7682994-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 1010 | 101 | 911 | 91 | 70-135 | 10 | 20 | mg/kg | 07.27.19 11:11 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1060 | 106 | 975 | 98 | 70-135 | 8 | 20 | mg/kg | 07.27.19 11:11 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 84 | | 78 | | 70-135 | % | 07.27.19 11:11 |
| o-Terphenyl | 64 | ** | 80 | | 77 | | 70-135 | % | 07.27.19 11:11 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096711 Matrix: Soil Date Prep: 07.26.19
Parent Sample Id: 631327-020 MS Sample Id: 631327-020 S MSD Sample Id: 631327-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 10.1 | 997 | 906 | 90 | 930 | 92 | 70-135 | 3 | 20 | mg/kg | 07.26.19 13:18 | |
| Diesel Range Organics (DRO) | <8.10 | 997 | 1030 | 103 | 1050 | 105 | 70-135 | 2 | 20 | mg/kg | 07.26.19 13:18 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 80 | | 70-135 | % | 07.26.19 13:18 |
| o-Terphenyl | 82 | | 82 | | 70-135 | % | 07.26.19 13:18 |

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

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

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

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

# QC Summary 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096729 — Matrix: Soil — Date Prep: 07.27.19
Parent Sample Id: 631513-001 — MS Sample Id: 631513-001 S — MSD Sample Id: 631513-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.98 | 997 | 857 | 86 | 889 | 89 | 70-135 | 4 | 20 | mg/kg | 07.27.19 12:23 | |
| Diesel Range Organics (DRO) | 13.5 | 997 | 891 | 88 | 968 | 96 | 70-135 | 8 | 20 | mg/kg | 07.27.19 12:23 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 75 | | 80 | | 70-135 | % | 07.27.19 12:23 |
| o-Terphenyl | 71 | | 78 | | 70-135 | % | 07.27.19 12:23 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3096597 — Matrix: Solid — Date Prep: 07.23.19
MB Sample Id: 7682603-1-BLK — LCS Sample Id: 7682603-1-BKS — LCSD Sample Id: 7682603-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.000540 | 0.100 | 0.108 | 108 | 0.117 | 117 | 70-130 | 8 | 35 | mg/kg | 07.24.19 20:55 | |
| Toluene | 0.000590 | 0.100 | 0.0931 | 93 | 0.0993 | 99 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0815 | 82 | 0.0869 | 87 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.167 | 84 | 0.178 | 89 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| o-Xylene | 0.000390 | 0.100 | 0.0892 | 89 | 0.0942 | 94 | 70-130 | 5 | 35 | mg/kg | 07.24.19 20:55 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 118 | | 114 | | 115 | | 70-130 | % | 07.24.19 20:55 |
| 4-Bromofluorobenzene | 111 | | 109 | | 105 | | 70-130 | % | 07.24.19 20:55 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3096598 — Matrix: Solid — Date Prep: 07.24.19
MB Sample Id: 7682689-1-BLK — LCS Sample Id: 7682689-1-BKS — LCSD Sample Id: 7682689-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000385 | 0.100 | 0.0979 | 98 | 0.107 | 107 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Toluene | 0.000510 | 0.100 | 0.0934 | 93 | 0.102 | 102 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0937 | 94 | 0.103 | 103 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.188 | 94 | 0.207 | 104 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |
| o-Xylene | <0.000344 | 0.100 | 0.0994 | 99 | 0.110 | 110 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 99 | | 100 | | 70-130 | % | 07.25.19 21:58 |
| 4-Bromofluorobenzene | 106 | | 108 | | 109 | | 70-130 | % | 07.25.19 21:58 |

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 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3096597
Matrix: Soil
Date Prep: 07.23.19
Parent Sample Id: 631513-001
MS Sample Id: 631513-001 S
MSD Sample Id: 631513-001 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 | 0.0904 | 90 | 0.0952 | 96 | 70-130 | 5 | 35 | mg/kg | 07.24.19 21:35 | |
| Toluene | <0.000456 | 0.100 | 0.0795 | 80 | 0.0806 | 81 | 70-130 | 1 | 35 | mg/kg | 07.24.19 21:35 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0709 | 71 | 0.0712 | 72 | 70-130 | 0 | 35 | mg/kg | 07.24.19 21:35 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.146 | 73 | 0.146 | 73 | 70-130 | 0 | 35 | mg/kg | 07.24.19 21:35 | |
| o-Xylene | <0.00200 | 0.100 | 0.0773 | 77 | 0.0762 | 77 | 70-130 | 1 | 35 | mg/kg | 07.24.19 21:35 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 113 | | 115 | | 70-130 | % | 07.24.19 21:35 |
| 4-Bromofluorobenzene | 112 | | 108 | | 70-130 | % | 07.24.19 21:35 |

**Analytical Method:** BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3096598
Matrix: Soil
Date Prep: 07.24.19
Parent Sample Id: 631513-020
MS Sample Id: 631513-020 S
MSD Sample Id: 631513-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0990 | 0.0887 | 90 | 0.0831 | 83 | 70-130 | 7 | 35 | mg/kg | 07.25.19 22:38 | |
| Toluene | <0.00198 | 0.0990 | 0.0813 | 82 | 0.0769 | 77 | 70-130 | 6 | 35 | mg/kg | 07.25.19 22:38 | |
| Ethylbenzene | <0.00198 | 0.0990 | 0.0805 | 81 | 0.0766 | 77 | 70-130 | 5 | 35 | mg/kg | 07.25.19 22:38 | |
| m,p-Xylenes | <0.00100 | 0.198 | 0.161 | 81 | 0.154 | 77 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |
| o-Xylene | <0.00198 | 0.0990 | 0.0865 | 87 | 0.0827 | 83 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 102 | | 70-130 | % | 07.25.19 22:38 |
| 4-Bromofluorobenzene | 111 | | 114 | | 70-130 | % | 07.25.19 22:38 |

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

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

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

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

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Carlsbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

XENCO LABORATORIES

Work Order No: 631513

Page 1 of 3

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | SLe@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: | JRU DI I | Turn Around | |
| Project Number: | 2RP-2440 13046 | Routine ☑ | Pres. Code |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer L. | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.6 | Thermometer ID | TVH007 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chloride (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH01 | S | 7.17.19 | 1040 | 2' | 1 | | | |
| | PH01A | | | 1055 | 4' | | | | |
| | PH02 | | | 1105 | 1' | | | | |
| | PH02A | | | 1135 | 4' | | | | |
| | PH03 | | | 1145 | 1' | | | | |
| | PH03A | | | 1210 | 4' | | | | |
| | PH04 | | | 1240 | 1' | | | | |
| | PH04A | | | 1310 | 4' | | | | |
| | PH05 | | | 1320 | 1' | | | | |
| | PH05A | | | 1350 | 4' | | | | |

**ANALYSIS REQUEST**

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

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| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 820 7.19.19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 082818 Rev. 2018.1

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# Chain of Custody

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Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crailsbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com

Work Order No: 631513

Page 2 of 3

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | LTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | jlott@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JLV DI 1 | Turn Around | |
| Project Number: | 2RP 2440 / 3046 | Routine: ☑ | |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.6 | Thermometer ID | TNH03 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chlorides (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH05 | S | 7.17.14 | 1400 | 1' | 1 | | | |
| | PH06A | | | 1430 | 4' | | | | |
| | PH07 | | | 1440 | 1' | | | | |
| | PH07A | | | 1510 | 4' | | | | |
| | PH08 | | | 1520 | 1' | | | | |
| | PH08A | | | 1550 | 4' | | | | |
| | PH09 | | | 1610 | 1' | | | | |
| | PH09A | | | 1630 | 4' | | | | |
| | PH10 | | | 1650 | 1' | | | | |
| | PH10A | ↓ | ↓ | 1710 | 4' | ↓ | ↓ | ↓ | ↓ |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| Spencer Lo | | 830 7.19.14 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 032819 Rev. 2019.1

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Carlsbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
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Work Order No: U3(573

Page 3 of 3

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | slop@lenv.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: | JAU DI 2 | Turn Around | |
| Project Number: | 228-24410/3046 | Routine: | ☑ |
| Project Location: | | Rush: | |
| Sampler's Name: | Spence Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.6 | Thermometer ID | TPM007 |
| 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 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chlorides (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH11 | S | 7-18-19 | 910 | 1' | 1 | | | |
| | PH11A | | | 950 | 4' | | | | |
| | PH12 | | | 1010 | 1' | | | | |
| | PH12A | | | 1050 | 4' | | | | |
| | PH13 | | | 1110 | 1' | | | | |
| | PH13A | | | 1200 | 4' | | | | |
| | PH14 | | | 1245 | 1' | | | | |
| | PH14A | ↓ | ↓ | 1300 | 4' | ↓ | | | |
| | | | | | Spence Lo | | | | |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 830 7-19-19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

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# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Relinquished By:

Received By:

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Date Relinquished: 

Elizabeth McClellan

07.19.2019

Date Received:

Cooler Temperature:

# Inter-Office Shipment



**IOS Number : 43848**

Date/Time: 07.19.2019 11:09
Lab# From: **Carlsbad**
Lab# To: **Midland**
Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:
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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |

**Inter Office Shipment or Sample Comments:**

Relinquished By:

Received By:

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Date Relinquished: 

Elizabeth McClellan

07.19.2019

Date Received:

Cooler Temperature:

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 43847

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

**Sent By:** Elizabeth McClellan **Date Sent:** 07/19/2019 11:03 AM

**Received By:** **Date Received:**

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

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

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

**Checklist reviewed by:** _____ Date: _____
Katie Lowe

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 07/19/2019 08:30:00 AM

**Work Order #:** 631513

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 5.6 | |
| #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)? | **Yes** | Subbed to Xenco Midland. |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 07/19/2019

**Checklist reviewed by:** Jessica Kramer Date: 07/22/2019

Jessica Kramer

# Analytical Report 631513

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU DI 1**

**2RP-2440 13046**

**29-JUL-19**

Collected By: Client




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

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

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

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

29-JUL-19

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

Reference: XENCO Report No(s): **631513**
**JRU DI 1**
Project Address: Delaware Basin

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 631513. 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. 631513 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 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 07-17-19 10:40 | 2 ft | 631513-001 |
| PH01A | S | 07-17-19 10:55 | 4 ft | 631513-002 |
| PH02 | S | 07-17-19 11:05 | 1 ft | 631513-003 |
| PH02A | S | 07-17-19 11:35 | 4 ft | 631513-004 |
| PH03 | S | 07-17-19 11:45 | 1 ft | 631513-005 |
| PH03A | S | 07-17-19 12:30 | 4 ft | 631513-006 |
| PH04 | S | 07-17-19 12:40 | 1 ft | 631513-007 |
| PH04A | S | 07-17-19 13:10 | 4 ft | 631513-008 |
| PH05 | S | 07-17-19 13:20 | 1 ft | 631513-009 |
| PH05A | S | 07-17-19 13:50 | 4 ft | 631513-010 |
| PH06 | S | 07-17-19 14:00 | 1 ft | 631513-011 |
| PH06A | S | 07-17-19 14:30 | 4 ft | 631513-012 |
| PH07 | S | 07-17-19 14:40 | 1 ft | 631513-013 |
| PH07A | S | 07-17-19 15:10 | 4 ft | 631513-014 |
| PH08 | S | 07-17-19 15:20 | 1 ft | 631513-015 |
| PH08A | S | 07-17-19 15:50 | 4 ft | 631513-016 |
| PH09 | S | 07-17-19 16:10 | 1 ft | 631513-017 |
| PH09A | S | 07-17-19 16:30 | 4 ft | 631513-018 |
| PH10 | S | 07-17-19 16:50 | 1 ft | 631513-019 |
| PH10A | S | 07-17-19 17:20 | 4 ft | 631513-020 |
| PH11 | S | 07-18-19 09:10 | 1 ft | 631513-021 |
| PH11A | S | 07-18-19 09:50 | 4 ft | 631513-022 |
| PH12 | S | 07-18-19 10:10 | 1 ft | 631513-023 |
| PH12A | S | 07-18-19 10:50 | 4 ft | 631513-024 |
| PH13 | S | 07-18-19 11:10 | 1 ft | 631513-025 |
| PH13A | S | 07-18-19 12:00 | 4 ft | 631513-026 |
| PH14 | S | 07-18-19 12:15 | 1 ft | 631513-027 |
| PH14A | S | 07-18-19 13:00 | 4 ft | 631513-028 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI 1***

Project ID: *2RP-2440 13046*
Work Order Number(s): *631513*

Report Date: *29-JUL-19*
Date Received: *07/19/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3096597 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 631513-007,631513-010,631513-009.

Batch: LBA-3096598 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3096729 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Samples affected are: 7682994-1-BLK,631513-004,631513-005,631513-006,631513-020,631513-008,631513-009,631513-015,631513-017,631513-018,631513-003,631513-007.

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-001 | | 631513-002 | | 631513-003 | | 631513-004 | | 631513-005 | | 631513-006 | |
| | ***Field Id:*** | PH01 | | PH01A | | PH02 | | PH02A | | PH03 | | PH03A | |
| | ***Depth:*** | 2- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 10:40 | | Jul-17-19 10:55 | | Jul-17-19 11:05 | | Jul-17-19 11:35 | | Jul-17-19 11:45 | | Jul-17-19 12:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-24-19 22:55 | | Jul-24-19 23:15 | | Jul-24-19 23:35 | | Jul-24-19 23:55 | | Jul-25-19 00:15 | | Jul-25-19 00:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | |
| | ***Analyzed:*** | Jul-22-19 23:46 | | Jul-23-19 09:28 | | Jul-23-19 09:34 | | Jul-23-19 09:40 | | Jul-23-19 08:32 | | Jul-23-19 09:46 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 121 | 5.00 | 33.7 | 5.02 | <4.96 | 4.96 | 12.0 | 4.97 | 222 | 5.00 | 26.9 | 5.05 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 11:59 | | Jul-27-19 13:11 | | Jul-27-19 13:35 | | Jul-27-19 13:59 | | Jul-27-19 14:23 | | Jul-27-19 14:47 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.



Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-007 | | 631513-008 | | 631513-009 | | 631513-010 | | 631513-011 | | 631513-012 | |
| | ***Field Id:*** | PH04 | | PH04A | | PH05 | | PH05A | | PH06 | | PH06A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 12:40 | | Jul-17-19 13:10 | | Jul-17-19 13:20 | | Jul-17-19 13:50 | | Jul-17-19 14:00 | | Jul-17-19 14:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-25-19 00:55 | | Jul-25-19 01:16 | | Jul-25-19 01:36 | | Jul-25-19 01:56 | | Jul-25-19 17:38 | | Jul-25-19 17:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00403 | 0.00403 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | |
| | ***Analyzed:*** | Jul-23-19 08:51 | | Jul-23-19 09:53 | | Jul-23-19 15:38 | | Jul-23-19 09:59 | | Jul-23-19 10:05 | | Jul-23-19 10:12 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 86.0 | 49.7 | 7.48 | 5.04 | <5.00 | 5.00 | 34.3 | 4.96 | 19.3 | 5.01 | 6.64 | 4.98 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 15:11 | | Jul-27-19 15:35 | | Jul-27-19 15:59 | | Jul-27-19 16:23 | | Jul-27-19 17:11 | | Jul-27-19 17:35 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-013 | | 631513-014 | | 631513-015 | | 631513-016 | | 631513-017 | | 631513-018 | |
| | ***Field Id:*** | PH07 | | PH07A | | PH08 | | PH08A | | PH09 | | PH09A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 14:40 | | Jul-17-19 15:10 | | Jul-17-19 15:20 | | Jul-17-19 15:50 | | Jul-17-19 16:10 | | Jul-17-19 16:30 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | | Jul-23-19 14:12 | |
| | ***Analyzed:*** | Jul-25-19 18:19 | | Jul-25-19 18:39 | | Jul-25-19 18:59 | | Jul-25-19 19:19 | | Jul-25-19 19:39 | | Jul-25-19 19:59 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00397 | 0.00397 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-22-19 16:30 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | |
| | ***Analyzed:*** | Jul-23-19 10:18 | | Jul-23-19 10:24 | | Jul-23-19 15:46 | | Jul-23-19 15:41 | | Jul-23-19 10:37 | | Jul-23-19 10:58 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 23.5 | 5.00 | <5.00 | 5.00 | 44.9 | 5.00 | 16.1 | 5.03 | 12.4 | 5.00 | 2600 | 49.8 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-27-19 09:00 | |
| | ***Analyzed:*** | Jul-27-19 17:58 | | Jul-27-19 18:22 | | Jul-27-19 18:46 | | Jul-27-19 19:10 | | Jul-27-19 19:34 | | Jul-27-19 19:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-019 | | 631513-020 | | 631513-021 | | 631513-022 | | 631513-023 | | 631513-024 | |
| | ***Field Id:*** | PH10 | | PH10A | | PH11 | | PH11A | | PH12 | | PH12A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-17-19 16:50 | | Jul-17-19 17:20 | | Jul-18-19 09:10 | | Jul-18-19 09:50 | | Jul-18-19 10:10 | | Jul-18-19 10:50 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 14:12 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | |
| | ***Analyzed:*** | Jul-25-19 20:19 | | Jul-25-19 23:58 | | Jul-26-19 00:18 | | Jul-26-19 10:36 | | Jul-26-19 00:58 | | Jul-26-19 01:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00397 | 0.00397 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00402 | 0.00402 | <0.00400 | 0.00400 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | |
| | ***Analyzed:*** | Jul-23-19 11:03 | | Jul-23-19 15:47 | | Jul-23-19 11:25 | | Jul-23-19 15:52 | | Jul-23-19 11:35 | | Jul-23-19 15:57 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <4.95 | 4.95 | 14.9 | 4.95 | <5.05 | 5.05 | <5.05 | 5.05 | <5.05 | 5.05 | <4.95 | 4.95 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-27-19 09:00 | | Jul-27-19 09:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | |
| | ***Analyzed:*** | Jul-27-19 20:21 | | Jul-27-19 20:45 | | Jul-26-19 18:56 | | Jul-26-19 19:20 | | Jul-26-19 19:44 | | Jul-26-19 20:08 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631513

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 2RP-2440 13046
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 29-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631513-025 | | 631513-026 | | 631513-027 | | 631513-028 | | | | | | | |
| | ***Field Id:*** | PH13 | | PH13A | | PH14 | | PH14A | | | | | | | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | | | |
| | ***Sampled:*** | Jul-18-19 11:10 | | Jul-18-19 12:00 | | Jul-18-19 12:15 | | Jul-18-19 13:00 | | | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-26-19 01:38 | | Jul-26-19 01:58 | | Jul-26-19 02:18 | | Jul-26-19 02:38 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Toluene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00401 | 0.00401 | <0.00399 | 0.00399 | | | | | | |
| o-Xylene | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| Total BTEX | | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | | | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-23-19 11:51 | | Jul-23-19 16:03 | | Jul-23-19 12:08 | | Jul-23-19 16:08 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Chloride | | <5.02 | 5.02 | <4.99 | 4.99 | 14.5 | 5.03 | <4.97 | 4.97 | | | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | | | | | | |
| **SUB: T104704400-18-16** | ***Analyzed:*** | Jul-26-19 20:32 | | Jul-26-19 20:56 | | Jul-26-19 21:20 | | Jul-26-19 21:43 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-001 | Date Collected: | 07.17.19 10.40 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **121** | 5.00 | mg/kg | 07.22.19 23.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 11.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 11.59 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 11.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-001 | Date Collected: | 07.17.19 10.40 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 22.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 22.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.24.19 22.55 | |
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.24.19 22.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-002 | Date Collected: | 07.17.19 10.55 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **33.7** | 5.02 | mg/kg | 07.23.19 09.28 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 13.11 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 13.11 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-002 | Date Collected: | 07.17.19 10.55 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.24.19 23.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.24.19 23.15 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.24.19 23.15 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-003 | Date Collected: | 07.17.19 11.05 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 07.23.19 09.34 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 13.35 | |
| o-Terphenyl | 84-15-1 | 68 | % | 70-135 | 07.27.19 13.35 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-003 | Date Collected: | 07.17.19 11.05 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 23.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 23.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.24.19 23.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 23.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-004 | Date Collected: | 07.17.19 11.35 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.0** | 4.97 | mg/kg | 07.23.19 09.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 13.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 13.59 | |
| o-Terphenyl | 84-15-1 | 66 | % | 70-135 | 07.27.19 13.59 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-004 | Date Collected: | 07.17.19 11.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 23.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 23.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 23.55 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.24.19 23.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-005 | Date Collected: | 07.17.19 11.45 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **222** | 5.00 | mg/kg | 07.23.19 08.32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 14.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.27.19 14.23 | |
| o-Terphenyl | 84-15-1 | 65 | % | 70-135 | 07.27.19 14.23 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-005 | Date Collected: | 07.17.19 11.45 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 00.15 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 00.15 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.25.19 00.15 | |
| 1,4-Difluorobenzene | 540-36-3 | 111 | % | 70-130 | 07.25.19 00.15 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-006 | Date Collected: | 07.17.19 12.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **26.9** | 5.05 | mg/kg | 07.23.19 09.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 14.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.27.19 14.47 | |
| o-Terphenyl | 84-15-1 | 65 | % | 70-135 | 07.27.19 14.47 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-006 | Date Collected: | 07.17.19 12.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.25.19 00.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.25.19 00.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 07.25.19 00.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.25.19 00.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-007 | Date Collected: | 07.17.19 12.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **86.0** | 49.7 | mg/kg | 07.23.19 08.51 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 15.11 | |
| o-Terphenyl | 84-15-1 | 68 | % | 70-135 | 07.27.19 15.11 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-007 | Date Collected: | 07.17.19 12.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 00.55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 00.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 156 | % | 70-130 | 07.25.19 00.55 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 07.25.19 00.55 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-008 | Date Collected: | 07.17.19 13.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **7.48** | 5.04 | mg/kg | 07.23.19 09.53 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.27.19 15.35 | |
| o-Terphenyl | 84-15-1 | 67 | % | 70-135 | 07.27.19 15.35 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-008 | Date Collected: | 07.17.19 13.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 01.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 01.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 116 | % | 70-130 | 07.25.19 01.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 07.25.19 01.16 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-009 | Date Collected: | 07.17.19 13.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.23.19 15.38 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 15.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.27.19 15.59 | |
| o-Terphenyl | 84-15-1 | 66 | % | 70-135 | 07.27.19 15.59 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-009 | Date Collected: | 07.17.19 13.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.25.19 01.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.25.19 01.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 154 | % | 70-130 | 07.25.19 01.36 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 07.25.19 01.36 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH05A** Matrix: Soil Date Received:07.19.19 08.30
Lab Sample Id: 631513-010 Date Collected: 07.17.19 13.50 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.22.19 16.30 Basis: Wet Weight
Seq Number: 3096168 SUB: T104704400-18-16

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **34.3** | 4.96 | mg/kg | 07.23.19 09.59 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.27.19 09.00 Basis: Wet Weight
Seq Number: 3096729 SUB: T104704400-18-16

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 16.23 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 16.23 | |
| o-Terphenyl | 84-15-1 | 73 | % | 70-135 | 07.27.19 16.23 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-010 | Date Collected: | 07.17.19 13.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 01.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 01.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 145 | % | 70-130 | 07.25.19 01.56 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 07.25.19 01.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-011 | Date Collected: | 07.17.19 14.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.3** | 5.01 | mg/kg | 07.23.19 10.05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 17.11 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 17.11 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-011 | Date Collected: | 07.17.19 14.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 17.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 17.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 07.25.19 17.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.25.19 17.38 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-012 | Date Collected: | 07.17.19 14.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6.64** | 4.98 | mg/kg | 07.23.19 10.12 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 17.35 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.27.19 17.35 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-012 | Date Collected: | 07.17.19 14.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 17.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 17.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.25.19 17.59 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 07.25.19 17.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-013 | Date Collected: | 07.17.19 14.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.5** | 5.00 | mg/kg | 07.23.19 10.18 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 17.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 17.58 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.27.19 17.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-013 | Date Collected: | 07.17.19 14.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.25.19 18.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.25.19 18.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 07.25.19 18.19 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.25.19 18.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-014 | Date Collected: | 07.17.19 15.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.23.19 10.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 18.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.27.19 18.22 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 18.22 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-014 | Date Collected: | 07.17.19 15.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.25.19 18.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.25.19 18.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 18.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 07.25.19 18.39 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-015 | Date Collected: | 07.17.19 15.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 16.30 | Basis: | Wet Weight |
| Seq Number: | 3096168 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **44.9** | 5.00 | mg/kg | 07.23.19 15.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.27.19 18.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 07.27.19 18.46 | |
| o-Terphenyl | 84-15-1 | 63 | % | 70-135 | 07.27.19 18.46 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-015 | Date Collected: | 07.17.19 15.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 18.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 18.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.25.19 18.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.25.19 18.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-016 | Date Collected: | 07.17.19 15.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **16.1** | 5.03 | mg/kg | 07.23.19 15.41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 19.10 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.27.19 19.10 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-016 | Date Collected: | 07.17.19 15.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 19.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 19.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.25.19 19.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 94 | % | 70-130 | 07.25.19 19.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-017 | Date Collected: | 07.17.19 16.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.4** | 5.00 | mg/kg | 07.23.19 10.37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 19.34 | |
| o-Terphenyl | 84-15-1 | 69 | % | 70-135 | 07.27.19 19.34 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-017 | Date Collected: | 07.17.19 16.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.25.19 19.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 93 | % | 70-130 | 07.25.19 19.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 19.39 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-018 | Date Collected: | 07.17.19 16.30 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2600** | 49.8 | mg/kg | 07.23.19 10.58 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 19.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.27.19 19.57 | |
| o-Terphenyl | 84-15-1 | 69 | % | 70-135 | 07.27.19 19.57 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-018 | Date Collected: | 07.17.19 16.30 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.25.19 19.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.25.19 19.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.25.19 19.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 70-130 | 07.25.19 19.59 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-019 | Date Collected: | 07.17.19 16.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.23.19 11.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 20.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.27.19 20.21 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.27.19 20.21 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-019 | Date Collected: | 07.17.19 16.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.23.19 14.12 | Basis: | Wet Weight |
| Seq Number: | 3096597 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.25.19 20.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.25.19 20.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 07.25.19 20.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 84 | % | 70-130 | 07.25.19 20.19 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-020 | Date Collected: | 07.17.19 17.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.9** | 4.95 | mg/kg | 07.23.19 15.47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.27.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3096729 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.27.19 20.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.27.19 20.45 | |
| o-Terphenyl | 84-15-1 | 67 | % | 70-135 | 07.27.19 20.45 | ** |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-020 | Date Collected: | 07.17.19 17.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.25.19 23.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.25.19 23.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.25.19 23.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 70-130 | 07.25.19 23.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-021 | Date Collected: | 07.18.19 09.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 11.25 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 18.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.26.19 18.56 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.26.19 18.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-021 | Date Collected: | 07.18.19 09.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 00.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 00.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 07.26.19 00.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-022 | Date Collected: | 07.18.19 09.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 15.52 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 19.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 07.26.19 19.20 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 07.26.19 19.20 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-022 | Date Collected: | 07.18.19 09.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 10.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 10.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 70-130 | 07.26.19 10.36 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 10.36 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-023 | Date Collected: | 07.18.19 10.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.05 | 5.05 | mg/kg | 07.23.19 11.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.26.19 19.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.26.19 19.44 | |
| o-Terphenyl | 84-15-1 | 72 | % | 70-135 | 07.26.19 19.44 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-023 | Date Collected: | 07.18.19 10.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 00.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 00.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 00.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 07.26.19 00.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-024 | Date Collected: | 07.18.19 10.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.23.19 15.57 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.26.19 20.08 | |
| o-Terphenyl | 84-15-1 | 81 | % | 70-135 | 07.26.19 20.08 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-024 | Date Collected: | 07.18.19 10.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 01.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 01.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 81 | % | 70-130 | 07.26.19 01.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 07.26.19 01.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-025 | Date Collected: | 07.18.19 11.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.02 | 5.02 | mg/kg | 07.23.19 11.51 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.26.19 20.32 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.26.19 20.32 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-025 | Date Collected: | 07.18.19 11.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 01.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 01.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.26.19 01.38 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-026 | Date Collected: | 07.18.19 12.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 07.23.19 16.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 20.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 81 | % | 70-135 | 07.26.19 20.56 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.26.19 20.56 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-026 | Date Collected: | 07.18.19 12.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.26.19 01.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.26.19 01.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 70-130 | 07.26.19 01.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 07.26.19 01.58 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-027 | Date Collected: | 07.18.19 12.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14.5** | 5.03 | mg/kg | 07.23.19 12.08 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 21.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.26.19 21.20 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.26.19 21.20 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-027 | Date Collected: | 07.18.19 12.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.26.19 02.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 07.26.19 02.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 07.26.19 02.18 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-028 | Date Collected: | 07.18.19 13.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.97 | 4.97 | mg/kg | 07.23.19 16.08 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 21.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 07.26.19 21.43 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 07.26.19 21.43 | |

# Certificate of Analytical Results 631513

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631513-028 | Date Collected: | 07.18.19 13.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.26.19 02.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.26.19 02.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 07.26.19 02.38 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Solid — Date Prep: 07.22.19
MB Sample Id: 7682543-1-BLK — LCS Sample Id: 7682543-1-BKS — LCSD Sample Id: 7682543-1-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 | 244 | 98 | 243 | 97 | 90-110 | 0 | 20 | mg/kg | 07.22.19 23:33 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Solid — Date Prep: 07.23.19
MB Sample Id: 7682574-1-BLK — LCS Sample Id: 7682574-1-BKS — LCSD Sample Id: 7682574-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 242 | 97 | 242 | 97 | 90-110 | 0 | 20 | mg/kg | 07.23.19 10:26 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631513-001 — MS Sample Id: 631513-001 S — MSD Sample Id: 631513-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 121 | 250 | 367 | 98 | 368 | 99 | 90-110 | 0 | 20 | mg/kg | 07.22.19 23:52 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096168 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631513-005 — MS Sample Id: 631513-005 S — MSD Sample Id: 631513-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 222 | 250 | 470 | 99 | 470 | 99 | 90-110 | 0 | 20 | mg/kg | 07.23.19 08:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631513-017 — MS Sample Id: 631513-017 S — MSD Sample Id: 631513-017 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12.4 | 250 | 269 | 103 | 265 | 101 | 90-110 | 1 | 20 | mg/kg | 07.23.19 10:42 | |

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

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

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

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

# QC Summary 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3096267 Matrix: Soil Date Prep: 07.23.19
Parent Sample Id: 631513-025 MS Sample Id: 631513-025 S MSD Sample Id: 631513-025 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 0.896 | 251 | 253 | 100 | 251 | 100 | 90-110 | 1 | 20 | mg/kg | 07.23.19 11:57 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096711 Matrix: Solid Date Prep: 07.26.19
MB Sample Id: 7682976-1-BLK LCS Sample Id: 7682976-1-BKS LCSD Sample Id: 7682976-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 907 | 91 | 846 | 85 | 70-135 | 7 | 20 | mg/kg | 07.26.19 12:06 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1050 | 105 | 988 | 99 | 70-135 | 6 | 20 | mg/kg | 07.26.19 12:06 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 78 | | 89 | | 76 | | 70-135 | % | 07.26.19 12:06 |
| o-Terphenyl | 82 | | 103 | | 90 | | 70-135 | % | 07.26.19 12:06 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096729 Matrix: Solid Date Prep: 07.27.19
MB Sample Id: 7682994-1-BLK LCS Sample Id: 7682994-1-BKS LCSD Sample Id: 7682994-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 1010 | 101 | 911 | 91 | 70-135 | 10 | 20 | mg/kg | 07.27.19 11:11 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1060 | 106 | 975 | 98 | 70-135 | 8 | 20 | mg/kg | 07.27.19 11:11 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 84 | | 78 | | 70-135 | % | 07.27.19 11:11 |
| o-Terphenyl | 64 | ** | 80 | | 77 | | 70-135 | % | 07.27.19 11:11 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3096711 Matrix: Soil Date Prep: 07.26.19
Parent Sample Id: 631327-020 MS Sample Id: 631327-020 S MSD Sample Id: 631327-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 10.1 | 997 | 906 | 90 | 930 | 92 | 70-135 | 3 | 20 | mg/kg | 07.26.19 13:18 | |
| Diesel Range Organics (DRO) | <8.10 | 997 | 1030 | 103 | 1050 | 105 | 70-135 | 2 | 20 | mg/kg | 07.26.19 13:18 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 80 | | 70-135 | % | 07.26.19 13:18 |
| o-Terphenyl | 82 | | 82 | | 70-135 | % | 07.26.19 13:18 |

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 631513

## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3096729 | Matrix: Soil | Date Prep: 07.27.19
Parent Sample Id: 631513-001 | MS Sample Id: 631513-001 S | MSD Sample Id: 631513-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.98 | 997 | 857 | 86 | 889 | 89 | 70-135 | 4 | 20 | mg/kg | 07.27.19 12:23 | |
| Diesel Range Organics (DRO) | 13.5 | 997 | 891 | 88 | 968 | 96 | 70-135 | 8 | 20 | mg/kg | 07.27.19 12:23 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 75 | | 80 | | 70-135 | % | 07.27.19 12:23 |
| o-Terphenyl | 71 | | 78 | | 70-135 | % | 07.27.19 12:23 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3096597 | Matrix: Solid | Date Prep: 07.23.19
MB Sample Id: 7682603-1-BLK | LCS Sample Id: 7682603-1-BKS | LCSD Sample Id: 7682603-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.000540 | 0.100 | 0.108 | 108 | 0.117 | 117 | 70-130 | 8 | 35 | mg/kg | 07.24.19 20:55 | |
| Toluene | 0.000590 | 0.100 | 0.0931 | 93 | 0.0993 | 99 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0815 | 82 | 0.0869 | 87 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.167 | 84 | 0.178 | 89 | 70-130 | 6 | 35 | mg/kg | 07.24.19 20:55 | |
| o-Xylene | 0.000390 | 0.100 | 0.0892 | 89 | 0.0942 | 94 | 70-130 | 5 | 35 | mg/kg | 07.24.19 20:55 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 118 | | 114 | | 115 | | 70-130 | % | 07.24.19 20:55 |
| 4-Bromofluorobenzene | 111 | | 109 | | 105 | | 70-130 | % | 07.24.19 20:55 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3096598 | Matrix: Solid | Date Prep: 07.24.19
MB Sample Id: 7682689-1-BLK | LCS Sample Id: 7682689-1-BKS | LCSD Sample Id: 7682689-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000385 | 0.100 | 0.0979 | 98 | 0.107 | 107 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Toluene | 0.000510 | 0.100 | 0.0934 | 93 | 0.102 | 102 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0937 | 94 | 0.103 | 103 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.188 | 94 | 0.207 | 104 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |
| o-Xylene | <0.000344 | 0.100 | 0.0994 | 99 | 0.110 | 110 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 99 | | 100 | | 70-130 | % | 07.25.19 21:58 |
| 4-Bromofluorobenzene | 106 | | 108 | | 109 | | 70-130 | % | 07.25.19 21:58 |

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

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

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

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

# QC Summary 631513



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3096597 Matrix: Soil Date Prep: 07.23.19
Parent Sample Id: 631513-001 MS Sample Id: 631513-001 S MSD Sample Id: 631513-001 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 | 0.0904 | 90 | 0.0952 | 96 | 70-130 | 5 | 35 | mg/kg | 07.24.19 21:35 | |
| Toluene | <0.000456 | 0.100 | 0.0795 | 80 | 0.0806 | 81 | 70-130 | 1 | 35 | mg/kg | 07.24.19 21:35 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0709 | 71 | 0.0712 | 72 | 70-130 | 0 | 35 | mg/kg | 07.24.19 21:35 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.146 | 73 | 0.146 | 73 | 70-130 | 0 | 35 | mg/kg | 07.24.19 21:35 | |
| o-Xylene | <0.00200 | 0.100 | 0.0773 | 77 | 0.0762 | 77 | 70-130 | 1 | 35 | mg/kg | 07.24.19 21:35 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 113 | | 115 | | 70-130 | % | 07.24.19 21:35 |
| 4-Bromofluorobenzene | 112 | | 108 | | 70-130 | % | 07.24.19 21:35 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3096598 Matrix: Soil Date Prep: 07.24.19
Parent Sample Id: 631513-020 MS Sample Id: 631513-020 S MSD Sample Id: 631513-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0990 | 0.0887 | 90 | 0.0831 | 83 | 70-130 | 7 | 35 | mg/kg | 07.25.19 22:38 | |
| Toluene | <0.00198 | 0.0990 | 0.0813 | 82 | 0.0769 | 77 | 70-130 | 6 | 35 | mg/kg | 07.25.19 22:38 | |
| Ethylbenzene | <0.00198 | 0.0990 | 0.0805 | 81 | 0.0766 | 77 | 70-130 | 5 | 35 | mg/kg | 07.25.19 22:38 | |
| m,p-Xylenes | <0.00100 | 0.198 | 0.161 | 81 | 0.154 | 77 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |
| o-Xylene | <0.00198 | 0.0990 | 0.0865 | 87 | 0.0827 | 83 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 102 | | 70-130 | % | 07.25.19 22:38 |
| 4-Bromofluorobenzene | 111 | | 114 | | 70-130 | % | 07.25.19 22:38 |

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

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Received by OCD: 12/11/2020 11:30:06 AM

# Chain of Custody

XENCO LABORATORIES

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Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 631513

Page 1 of 3

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | SLe@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: | JRU DI I | Turn Around | |
| Project Number: | 2RP-2440 13046 | Routine ☑ | Pres. Code |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer L. | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 5.6 | Thermometer ID | TUH007 |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | 10 |

**ANALYSIS REQUEST**

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chloride (EPA 300) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | PH01 | S | 7.17.19 | 1040 | 2' | 1 | | | | |
| | PH01A | | | 1055 | 4' | | | | | |
| | PH02 | | | 1105 | 1' | | | | | |
| | PH02A | | | 1135 | 4' | | | | | |
| | PH03 | | | 1145 | 1' | | | | | |
| | PH03A | | | 1230 | 4' | | | | | |
| | PH04 | | | 1240 | 1' | | | | | |
| | PH04A | | | 1310 | 4' | | | | | |
| | PH05 | | | 1320 | 1' | | | | | |
| | PH05A | | | 1350 | 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 |
|---|---|---|---|---|---|
| | | 820 7.19.19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 052818 Rev. 2018.1

Final 1.000

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
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Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com

Work Order No: 631513

Page 2 of 3

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | LTE |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | klittrell@ltenv.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JLV DI 1 | Turn Around | |
| Project Number: | 2RP 2440 / 3046 | Routine: ☑ | |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer L. | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.6 | Thermometer ID | TNH03 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8021) | BTEX (EPA 8021) | Chlorides (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH05 | S | 7.17.14 | 1400 | 1' | 1 | | | |
| | PH06A | | | 1430 | 4' | | | | |
| | PH07 | | | 1440 | 1' | | | | |
| | PH07A | | | 1510 | 4' | | | | |
| | PH08 | | | 1520 | 1' | | | | |
| | PH08A | | | 1550 | 4' | | | | |
| | PH09 | | | 1610 | 1' | | | | |
| | PH09A | | | 1630 | 4' | | | | |
| | PH10 | | | 1650 | 1' | | | | |
| | PH10A | ↓ | ↓ | 1710 | 4' | ↓ | ↓ | ↓ | ↓ |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 830 7.19.14 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 032819 Rev. 2019.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crestbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
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Work Order No: U3(573

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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | slop@lenv.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: | JAU DI 2 | Turn Around | |
| Project Number: | 200-2440/3046 | Routine: | ☑ |
| Project Location | | Rush: | |
| Sampler's Name: | Spence Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 5.6 | Thermometer ID | TPM007 | |
| 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 | |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chloride (EPA 300) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | PH11 | S | 7-18-19 | 910 | 1' | 1 | | | | |
| | PH11A | | | 950 | 4' | | | | | |
| | PH12 | | | 1010 | 1' | | | | | |
| | PH12A | | | 1050 | 4' | | | | | |
| | PH13 | | | 1110 | 1' | | | | | |
| | PH13A | | | 1200 | 4' | | | | | |
| | PH14 | | | 1245 | 1' | | | | | |
| | PH14A | ↓ | ↓ | 1300 | 4' | ↓ | | | | |
| | | | | | Spence Lo | | | | | |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

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 |
|---|---|---|---|---|---|
| | | 830 7-19-19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 032818 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
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# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.13.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Relinquished By:

Received By:

# Inter-Office Shipment



**IOS Number : 43847**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:03 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | E300_CL | Chloride by EPA 300 | 07.25.2019 | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8021B | BTEX by EPA 8021B | 07.25.2019 | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07.25.2019 | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Date Relinquished: 

Elizabeth McClellan

07.19.2019

Date Received:

Cooler Temperature:

# Inter-Office Shipment



**IOS Number : 43848**

Date/Time: 07.19.2019 11:09
Lab# From: **Carlsbad**
Lab# To: **Midland**
Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:
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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-001 | S | PH01 | 07.17.2019 10:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-002 | S | PH01A | 07.17.2019 10:55 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-003 | S | PH02 | 07.17.2019 11:05 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-004 | S | PH02A | 07.17.2019 11:35 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-005 | S | PH03 | 07.17.2019 11:45 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-006 | S | PH03A | 07.17.2019 12:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-007 | S | PH04 | 07.17.2019 12:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-008 | S | PH04A | 07.17.2019 13:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-009 | S | PH05 | 07.17.2019 13:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-009 | S | PH05 | 07.17.2019 13:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-010 | S | PH05A | 07.17.2019 13:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-011 | S | PH06 | 07.17.2019 14:00 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-012 | S | PH06A | 07.17.2019 14:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-013 | S | PH07 | 07.17.2019 14:40 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-014 | S | PH07A | 07.17.2019 15:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-015 | S | PH08 | 07.17.2019 15:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-016 | S | PH08A | 07.17.2019 15:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-017 | S | PH09 | 07.17.2019 16:10 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-018 | S | PH09A | 07.17.2019 16:30 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-019 | S | PH10 | 07.17.2019 16:50 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 07.31.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | SW8021B | BTEX by EPA 8021B | HOLD | 07.31.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-020 | S | PH10A | 07.17.2019 17:20 | E300_CL | Chloride by EPA 300 | HOLD | 01.13.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-021 | S | PH11 | 07.18.2019 09:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-022 | S | PH11A | 07.18.2019 09:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-023 | S | PH12 | 07.18.2019 10:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-024 | S | PH12A | 07.18.2019 10:50 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-025 | S | PH13 | 07.18.2019 11:10 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |

**Inter Office Shipment or Sample Comments:**

Relinquished By:

Received By:

# Inter-Office Shipment



**IOS Number : 43848**

| | | | | | |
|---|---|---|---|---|---|
| Date/Time: | 07.19.2019 11:09 | Created by: | Elizabeth Mcclellan | Please send report to: | Jessica Kramer |
| Lab# From: | **Carlsbad** | Delivery Priority: | | Address: | 1089 N Canal Street |
| Lab# To: | **Midland** | Air Bill No.: | | E-Mail: | jessica.kramer@xenco.com |

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-026 | S | PH13A | 07.18.2019 12:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-027 | S | PH14 | 07.18.2019 12:15 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8021B | BTEX by EPA 8021B | HOLD | 08.01.2019 | JKR | BR4FBZ BZ BZME EBZ | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | E300_CL | Chloride by EPA 300 | HOLD | 01.14.2020 | JKR | CL | |
| 631513-028 | S | PH14A | 07.18.2019 13:00 | SW8015MOD_NM | TPH by SW8015 Mod | HOLD | 08.01.2019 | JKR | GRO-DRO PHCC10C28 | |

**Inter Office Shipment or Sample Comments:**

Date Relinquished: 

Elizabeth McClellan

07.19.2019

Date Received:

Cooler Temperature:

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 43847

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

**Sent By:** Elizabeth McClellan **Date Sent:** 07/19/2019 11:03 AM

**Received By:** **Date Received:**

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

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

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

**Checklist reviewed by:** _____ Date: _____
Katie Lowe

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 07/19/2019 08:30:00 AM

**Work Order #:** 631513

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 5.6 | |
| #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)? | **Yes** | Subbed to Xenco Midland. |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 07/19/2019

**Checklist reviewed by:** Jessica Kramer Date: 07/22/2019

Jessica Kramer

# Analytical Report 615724

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**JRU DI 1**

**012918059**

**05-MAR-19**

Collected By: Client





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

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

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

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

05-MAR-19

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

Reference: XENCO Report No(s): **615724**
**JRU DI 1**
Project Address: Delaware Basin

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 615724. 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. 615724 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 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 02-19-19 12:30 | 2 ft | 615724-001 |
| PH01A | S | 02-19-19 12:50 | 4 ft | 615724-002 |
| PH02 | S | 02-19-19 12:40 | 2 ft | 615724-003 |
| PH02A | S | 02-19-19 12:45 | 4 ft | 615724-004 |
| PH03 | S | 02-19-19 14:40 | 1 ft | 615724-005 |
| PH03A | S | 02-19-19 14:50 | 4 ft | 615724-006 |
| PH04 | S | 02-19-19 13:10 | 2 ft | 615724-007 |
| PH04A | S | 02-19-19 13:20 | 4 ft | 615724-008 |
| PH05 | S | 02-19-19 14:20 | 3 ft | 615724-009 |
| PH05A | S | 02-19-19 14:25 | 4 ft | 615724-010 |

# CASE NARRATIVE

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

***Project Name: JRU DI 1***

Project ID: *012918059*
Work Order Number(s): *615724*

Report Date: *05-MAR-19*
Date Received: *02/26/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3080943 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3081074 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 615724

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 012918059
**Contact:** Adrian Baker
**Project Location:** Delaware Basin

**Date Received in Lab:** Tue Feb-26-19 11:00 am
**Report Date:** 05-MAR-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 615724-001 | | 615724-002 | | 615724-003 | | 615724-004 | | 615724-005 | | 615724-006 | |
| | *Field Id:* | PH01 | | PH01A | | PH02 | | PH02A | | PH03 | | PH03A | |
| | *Depth:* | 2- ft | | 4- ft | | 2- ft | | 4- ft | | 1- ft | | 4- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Feb-19-19 12:30 | | Feb-19-19 12:50 | | Feb-19-19 12:40 | | Feb-19-19 12:45 | | Feb-19-19 14:40 | | Feb-19-19 14:50 | |
| **BTEX by EPA 8021B** | *Extracted:* | Mar-03-19 19:00 | | Mar-03-19 19:00 | | Mar-04-19 07:30 | | Mar-04-19 07:30 | | Mar-04-19 07:30 | | Mar-04-19 07:30 | |
| | *Analyzed:* | Mar-04-19 03:51 | | Mar-04-19 04:10 | | Mar-04-19 11:12 | | Mar-04-19 15:31 | | Mar-04-19 15:50 | | Mar-04-19 16:09 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Toluene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | 0.0250 | 0.00200 | 0.0193 | 0.00201 | 0.0170 | 0.00199 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00402 | 0.00402 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | 0.0250 | 0.00200 | 0.0193 | 0.00201 | 0.0170 | 0.00199 |
| **Inorganic Anions by EPA 300** | *Extracted:* | Mar-01-19 16:30 | | Mar-01-19 16:30 | | Mar-01-19 12:00 | | Mar-01-19 12:00 | | Mar-01-19 12:00 | | Mar-01-19 12:00 | |
| | *Analyzed:* | Mar-02-19 02:37 | | Mar-02-19 13:18 | | Mar-01-19 23:29 | | Mar-01-19 23:35 | | Mar-01-19 23:42 | | Mar-02-19 13:05 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 393 | 50.0 | 65.1 | 5.00 | 78.1 | 24.8 | 793 | 50.0 | 806 | 50.0 | 18.0 | 5.00 |
| **TPH by SW8015 Mod** | *Extracted:* | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | |
| | *Analyzed:* | Feb-27-19 12:52 | | Feb-27-19 13:50 | | Feb-27-19 14:09 | | Feb-27-19 14:28 | | Feb-27-19 14:48 | | Feb-27-19 15:07 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <14.9 | 14.9 | 19.2 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <14.9 | 14.9 | 19.2 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 615724

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI 1

**Project Id:** 012918059
**Contact:** Adrian Baker
**Project Location:** Delaware Basin

**Date Received in Lab:** Tue Feb-26-19 11:00 am
**Report Date:** 05-MAR-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 615724-007 | | 615724-008 | | 615724-009 | | 615724-010 | | | | | |
| | ***Field Id:*** | PH04 | | PH04A | | PH05 | | PH05A | | | | | |
| | ***Depth:*** | 2- ft | | 4- ft | | 3- ft | | 4- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Feb-19-19 13:10 | | Feb-19-19 13:20 | | Feb-19-19 14:20 | | Feb-19-19 14:25 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Mar-04-19 07:30 | | Mar-04-19 07:30 | | Mar-04-19 07:30 | | Mar-04-19 07:30 | | | | | |
| | ***Analyzed:*** | Mar-04-19 16:28 | | Mar-04-19 16:47 | | Mar-04-19 18:26 | | Mar-04-19 18:45 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | | | | |
| Toluene | | 0.0149 | 0.00200 | 0.0135 | 0.00200 | 0.0113 | 0.00199 | 0.0109 | 0.00201 | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | | | | |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | | | | |
| Total BTEX | | 0.0149 | 0.00200 | 0.0135 | 0.00200 | 0.0113 | 0.00199 | 0.0109 | 0.00201 | | | | |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Mar-01-19 12:00 | | Mar-01-19 12:00 | | Mar-01-19 12:00 | | Mar-01-19 12:00 | | | | | |
| | ***Analyzed:*** | Mar-01-19 23:54 | | Mar-02-19 13:12 | | Mar-02-19 12:46 | | Mar-02-19 12:52 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 113 | 50.0 | 130 | 4.99 | 95.7 | 5.00 | 57.1 | 4.97 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | | Feb-27-19 08:00 | | | | | |
| | ***Analyzed:*** | Feb-27-19 15:26 | | Feb-27-19 15:46 | | Feb-27-19 16:05 | | Feb-27-19 16:24 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |

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Jessica Kramer
Project Assistant

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH01** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-001 Date Collected: 02.19.19 12.30 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 16.30 Basis: Wet Weight

Seq Number: 3081018

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **393** | 50.0 | mg/kg | 03.02.19 02.37 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 12.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 12.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 12.52 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 12.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 109 | % | 70-135 | 02.27.19 12.52 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 02.27.19 12.52 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-001 | Date Collected: | 02.19.19 12.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.03.19 19.00 | Basis: | Wet Weight |
| Seq Number: | 3080943 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.04.19 03.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 03.04.19 03.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 03.04.19 03.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 03.04.19 03.51 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH01A** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-002 Date Collected: 02.19.19 12.50 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 16.30 Basis: Wet Weight

Seq Number: 3081018

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **65.1** | 5.00 | mg/kg | 03.02.19 13.18 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.27.19 13.50 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.27.19 13.50 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.27.19 13.50 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.27.19 13.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 02.27.19 13.50 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 02.27.19 13.50 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-002 | Date Collected: | 02.19.19 12.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.03.19 19.00 | Basis: | Wet Weight |
| Seq Number: | 3080943 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.04.19 04.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 03.04.19 04.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.04.19 04.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 03.04.19 04.10 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH02** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-003 Date Collected: 02.19.19 12.40 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight

Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **78.1** | 24.8 | mg/kg | 03.01.19 23.29 | | 5 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 14.09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 14.09 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 14.09 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 14.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.27.19 14.09 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 02.27.19 14.09 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-003 | Date Collected: | 02.19.19 12.40 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.04.19 11.12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 03.04.19 11.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.04.19 11.12 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 03.04.19 11.12 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH02A** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-004 Date Collected: 02.19.19 12.45 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight

Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **793** | 50.0 | mg/kg | 03.01.19 23.35 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.27.19 14.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.27.19 14.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.27.19 14.28 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.27.19 14.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 02.27.19 14.28 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.27.19 14.28 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-004 | Date Collected: | 02.19.19 12.45 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.04.19 15.31 | U | 1 |
| **Toluene** | 108-88-3 | **0.0250** | 0.00200 | mg/kg | 03.04.19 15.31 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.04.19 15.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.04.19 15.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.04.19 15.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.04.19 15.31 | U | 1 |
| **Total BTEX** | | **0.0250** | 0.00200 | mg/kg | 03.04.19 15.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 03.04.19 15.31 | |
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 03.04.19 15.31 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-005 | Date Collected: | 02.19.19 14.40 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.01.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3080951 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **806** | 50.0 | mg/kg | 03.01.19 23.42 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.27.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3080673 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 14.48 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **19.2** | 15.0 | mg/kg | 02.27.19 14.48 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 14.48 | U | 1 |
| **Total TPH** | PHC635 | **19.2** | 15.0 | mg/kg | 02.27.19 14.48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 02.27.19 14.48 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 02.27.19 14.48 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-005 | Date Collected: | 02.19.19 14.40 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.04.19 15.50 | U | 1 |
| **Toluene** | 108-88-3 | **0.0193** | 0.00201 | mg/kg | 03.04.19 15.50 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.04.19 15.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.04.19 15.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.04.19 15.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.04.19 15.50 | U | 1 |
| **Total BTEX** | | **0.0193** | 0.00201 | mg/kg | 03.04.19 15.50 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.04.19 15.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.04.19 15.50 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH03A** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-006 Date Collected: 02.19.19 14.50 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight

Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **18.0** | 5.00 | mg/kg | 03.02.19 13.05 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 15.07 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 15.07 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 15.07 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 15.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 02.27.19 15.07 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.27.19 15.07 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-006 | Date Collected: | 02.19.19 14.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.04.19 16.09 | U | 1 |
| **Toluene** | 108-88-3 | **0.0170** | 0.00199 | mg/kg | 03.04.19 16.09 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.04.19 16.09 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.04.19 16.09 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.04.19 16.09 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.04.19 16.09 | U | 1 |
| **Total BTEX** | | **0.0170** | 0.00199 | mg/kg | 03.04.19 16.09 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 123 | % | 70-130 | 03.04.19 16.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 03.04.19 16.09 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH04** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-007 Date Collected: 02.19.19 13.10 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight

Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **113** | 50.0 | mg/kg | 03.01.19 23.54 | | 10 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 15.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 15.26 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 15.26 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 15.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 02.27.19 15.26 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.27.19 15.26 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-007 | Date Collected: | 02.19.19 13.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.28 | U | 1 |
| **Toluene** | 108-88-3 | **0.0149** | 0.00200 | mg/kg | 03.04.19 16.28 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.28 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 03.04.19 16.28 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.28 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.28 | U | 1 |
| **Total BTEX** | | **0.0149** | 0.00200 | mg/kg | 03.04.19 16.28 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.04.19 16.28 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.04.19 16.28 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH04A** Matrix: Soil Date Received:02.26.19 11.00
Lab Sample Id: 615724-008 Date Collected: 02.19.19 13.20 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight
Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **130** | 4.99 | mg/kg | 03.02.19 13.12 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight
Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 15.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 15.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 15.46 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 15.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.27.19 15.46 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.27.19 15.46 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-008 | Date Collected: | 02.19.19 13.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.47 | U | 1 |
| **Toluene** | 108-88-3 | **0.0135** | 0.00200 | mg/kg | 03.04.19 16.47 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 03.04.19 16.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 03.04.19 16.47 | U | 1 |
| **Total BTEX** | | **0.0135** | 0.00200 | mg/kg | 03.04.19 16.47 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 03.04.19 16.47 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 03.04.19 16.47 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-009 | Date Collected: | 02.19.19 14.20 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 03.01.19 12.00 | Basis: | Wet Weight |
| Seq Number: | 3080951 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **95.7** | 5.00 | mg/kg | 03.02.19 12.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.27.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3080673 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 16.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 16.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 16.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 16.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 02.27.19 16.05 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.27.19 16.05 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-009 | Date Collected: | 02.19.19 14.20 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 03.04.19 18.26 | U | 1 |
| **Toluene** | 108-88-3 | **0.0113** | 0.00199 | mg/kg | 03.04.19 18.26 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 03.04.19 18.26 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 03.04.19 18.26 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 03.04.19 18.26 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 03.04.19 18.26 | U | 1 |
| **Total BTEX** | | **0.0113** | 0.00199 | mg/kg | 03.04.19 18.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 03.04.19 18.26 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 03.04.19 18.26 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

Sample Id: **PH05A** Matrix: Soil Date Received:02.26.19 11.00

Lab Sample Id: 615724-010 Date Collected: 02.19.19 14.25 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.01.19 12.00 Basis: Wet Weight

Seq Number: 3080951

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.1** | 4.97 | mg/kg | 03.02.19 12.52 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.27.19 08.00 Basis: Wet Weight

Seq Number: 3080673

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.27.19 16.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.27.19 16.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.27.19 16.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.27.19 16.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.27.19 16.24 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 02.27.19 16.24 | |

# Certificate of Analytical Results 615724

## LT Environmental, Inc., Arvada, CO

JRU DI 1

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 02.26.19 11.00 |
| Lab Sample Id: | 615724-010 | Date Collected: | 02.19.19 14.25 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 03.04.19 07.30 | Basis: | Wet Weight |
| Seq Number: | 3081074 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 03.04.19 18.45 | U | 1 |
| **Toluene** | 108-88-3 | **0.0109** | 0.00201 | mg/kg | 03.04.19 18.45 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 03.04.19 18.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 03.04.19 18.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 03.04.19 18.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 03.04.19 18.45 | U | 1 |
| **Total BTEX** | | **0.0109** | 0.00201 | mg/kg | 03.04.19 18.45 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 110 | % | 70-130 | 03.04.19 18.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 03.04.19 18.45 | |

# 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 615724



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080951 — Matrix: Solid — Date Prep: 03.01.19
MB Sample Id: 7672861-1-BLK — LCS Sample Id: 7672861-1-BKS — LCSD Sample Id: 7672861-1-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 | 248 | 99 | 251 | 100 | 90-110 | 1 | 20 | mg/kg | 03.01.19 20:59 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081018 — Matrix: Solid — Date Prep: 03.01.19
MB Sample Id: 7672864-1-BLK — LCS Sample Id: 7672864-1-BKS — LCSD Sample Id: 7672864-1-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 | 257 | 103 | 90-110 | 0 | 20 | mg/kg | 03.02.19 00:33 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080951 — Matrix: Soil — Date Prep: 03.01.19
Parent Sample Id: 615725-001 — MS Sample Id: 615725-001 S — MSD Sample Id: 615725-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 522 | 248 | 732 | 85 | 729 | 83 | 90-110 | 0 | 20 | mg/kg | 03.01.19 21:19 | X |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3080951 — Matrix: Soil — Date Prep: 03.01.19
Parent Sample Id: 615725-004 — MS Sample Id: 615725-004 S — MSD Sample Id: 615725-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 39.9 | 249 | 306 | 107 | 309 | 108 | 90-110 | 1 | 20 | mg/kg | 03.01.19 22:50 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081018 — Matrix: Soil — Date Prep: 03.01.19
Parent Sample Id: 615637-004 — MS Sample Id: 615637-004 S — MSD Sample Id: 615637-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.855 | 249 | 262 | 105 | 270 | 108 | 90-110 | 3 | 20 | mg/kg | 03.02.19 00:53 | |

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 615724



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3081018 Matrix: Soil Date Prep: 03.01.19
Parent Sample Id: 615723-005 MS Sample Id: 615723-005 S MSD Sample Id: 615723-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.850 | 248 | 262 | 106 | 265 | 107 | 90-110 | 1 | 20 | mg/kg | 03.02.19 02:24 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080673 Matrix: Solid Date Prep: 02.27.19
MB Sample Id: 7672695-1-BLK LCS Sample Id: 7672695-1-BKS LCSD Sample Id: 7672695-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 935 | 94 | 925 | 93 | 70-135 | 1 | 20 | mg/kg | 02.27.19 12:14 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 929 | 93 | 928 | 93 | 70-135 | 0 | 20 | mg/kg | 02.27.19 12:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 99 | | 111 | | 114 | | 70-135 | % | 02.27.19 12:14 |
| o-Terphenyl | 100 | | 95 | | 97 | | 70-135 | % | 02.27.19 12:14 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080673 Matrix: Soil Date Prep: 02.27.19
Parent Sample Id: 615724-001 MS Sample Id: 615724-001 S MSD Sample Id: 615724-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <7.99 | 999 | 951 | 95 | 935 | 94 | 70-135 | 2 | 20 | mg/kg | 02.27.19 13:12 | |
| Diesel Range Organics (DRO) | <8.12 | 999 | 918 | 92 | 926 | 93 | 70-135 | 1 | 20 | mg/kg | 02.27.19 13:12 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 112 | | 117 | | 70-135 | % | 02.27.19 13:12 |
| o-Terphenyl | 98 | | 96 | | 70-135 | % | 02.27.19 13:12 |

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

# QC Summary 615724

## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080943 — Matrix: Solid — Date Prep: 03.03.19
MB Sample Id: 7672880-1-BLK — LCS Sample Id: 7672880-1-BKS — LCSD Sample Id: 7672880-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000386 | 0.100 | 0.125 | 125 | 0.122 | 122 | 70-130 | 2 | 35 | mg/kg | 03.03.19 20:19 | |
| Toluene | <0.000457 | 0.100 | 0.118 | 118 | 0.116 | 116 | 70-130 | 2 | 35 | mg/kg | 03.03.19 20:19 | |
| Ethylbenzene | <0.000567 | 0.100 | 0.108 | 108 | 0.106 | 106 | 70-130 | 2 | 35 | mg/kg | 03.03.19 20:19 | |
| m,p-Xylenes | <0.00102 | 0.201 | 0.218 | 108 | 0.214 | 108 | 70-130 | 2 | 35 | mg/kg | 03.03.19 20:19 | |
| o-Xylene | <0.000346 | 0.100 | 0.105 | 105 | 0.103 | 103 | 70-130 | 2 | 35 | mg/kg | 03.03.19 20:19 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 116 | | 113 | | 112 | | 70-130 | % | 03.03.19 20:19 |
| 4-Bromofluorobenzene | 99 | | 101 | | 100 | | 70-130 | % | 03.03.19 20:19 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3081074 — Matrix: Solid — Date Prep: 03.04.19
MB Sample Id: 7672932-1-BLK — LCS Sample Id: 7672932-1-BKS — LCSD Sample Id: 7672932-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0994 | 0.129 | 130 | 0.126 | 126 | 70-130 | 2 | 35 | mg/kg | 03.04.19 09:20 | |
| Toluene | <0.000453 | 0.0994 | 0.106 | 107 | 0.110 | 110 | 70-130 | 4 | 35 | mg/kg | 03.04.19 09:20 | |
| Ethylbenzene | <0.000561 | 0.0994 | 0.0971 | 98 | 0.101 | 101 | 70-130 | 4 | 35 | mg/kg | 03.04.19 09:20 | |
| m,p-Xylenes | <0.00101 | 0.199 | 0.197 | 99 | 0.204 | 102 | 70-130 | 3 | 35 | mg/kg | 03.04.19 09:20 | |
| o-Xylene | <0.000342 | 0.0994 | 0.0939 | 94 | 0.0976 | 98 | 70-130 | 4 | 35 | mg/kg | 03.04.19 09:20 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 116 | | 110 | | 113 | | 70-130 | % | 03.04.19 09:20 |
| 4-Bromofluorobenzene | 95 | | 96 | | 100 | | 70-130 | % | 03.04.19 09:20 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3080943 — Matrix: Soil — Date Prep: 03.03.19
Parent Sample Id: 615614-001 — MS Sample Id: 615614-001 S — MSD Sample Id: 615614-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000388 | 0.101 | 0.134 | 133 | 0.0773 | 155 | 70-130 | 54 | 35 | mg/kg | 03.03.19 20:57 | XF |
| Toluene | 0.000928 | 0.101 | 0.0970 | 95 | 0.0624 | 123 | 70-130 | 43 | 35 | mg/kg | 03.03.19 20:57 | F |
| Ethylbenzene | <0.000569 | 0.101 | 0.0805 | 80 | 0.0523 | 105 | 70-130 | 42 | 35 | mg/kg | 03.03.19 20:57 | F |
| m,p-Xylenes | 0.00118 | 0.202 | 0.162 | 80 | 0.111 | 110 | 70-130 | 37 | 35 | mg/kg | 03.03.19 20:57 | F |
| o-Xylene | 0.000489 | 0.101 | 0.0780 | 77 | 0.0542 | 107 | 70-130 | 36 | 35 | mg/kg | 03.03.19 20:57 | F |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 117 | | 109 | | 70-130 | % | 03.03.19 20:57 |
| 4-Bromofluorobenzene | 103 | | 119 | | 70-130 | % | 03.03.19 20:57 |

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

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

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

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

# QC Summary 615724



## LT Environmental, Inc.

JRU DI 1

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3081074 Matrix: Soil Date Prep: 03.04.19

Parent Sample Id: 615724-003 MS Sample Id: 615724-003 S MSD Sample Id: 615724-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000384 | 0.0998 | 0.118 | 118 | 0.117 | 116 | 70-130 | 1 | 35 | mg/kg | 03.04.19 09:58 | |
| Toluene | <0.000455 | 0.0998 | 0.0961 | 96 | 0.0942 | 93 | 70-130 | 2 | 35 | mg/kg | 03.04.19 09:58 | |
| Ethylbenzene | <0.000564 | 0.0998 | 0.0877 | 88 | 0.0858 | 85 | 70-130 | 2 | 35 | mg/kg | 03.04.19 09:58 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.178 | 89 | 0.173 | 86 | 70-130 | 3 | 35 | mg/kg | 03.04.19 09:58 | |
| o-Xylene | 0.000359 | 0.0998 | 0.0858 | 86 | 0.0831 | 82 | 70-130 | 3 | 35 | mg/kg | 03.04.19 09:58 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 115 | | 116 | | 70-130 | % | 03.04.19 09:58 |
| 4-Bromofluorobenzene | 102 | | 104 | | 70-130 | % | 03.04.19 09:58 |

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

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# Chain of Custody

Work Order No: 615724

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: | Adrian Baker | Bill to: (if different) | Kyle Littrel |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO - Energy |
| Address: | 3300 North A Street | Address: | |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad NM |
| Phone: | 432.704.5178 | Email: | |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU DI 1 | Turn Around | |
| Project Number: | 01291 8059 | Routine | ☑ |
| P.O. Number: | 2RP - 2334 | Rush: | |
| Sampler's Name: | Robert McPee | Due Date: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.2 / 0.1 | Thermometer ID: | KE |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.1 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| PH01 | S | 02/19/19 | 1230 | 2' | 1 | X | X | X |
| PH01A | | | 1250 | 4' | | X | X | X |
| PH02 | | | 1240 | 2' | | X | X | X |
| PH02A | | | 1245 | 4' | | X | X | X |
| PH03 | | | 1440 | 1' | | X | X | X |
| PH03A | | | 1450 | 4' | | X | X | X |
| PH04 | | | 1310 | 2' | | X | X | X |
| PH04A | | | 1320 | 4' | | X | X | X |
| PH05 | | | 1420 | 3' | | X | X | X |
| PH05A | | | 1425 | 4' | | X | X | X |

**Work Order Notes**

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

**Sample Comments**

discrete

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

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

2/22/19 1100 — 2/26/19 1100

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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

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

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02/26/2019 11:00:00 AM

**Work Order #:** 615724

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

**Temperature Measuring device used : R8**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 02/26/2019

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 02/26/2019

Jessica Kramer

# ANALYTICAL REPORT

January 03, 2018

## XTO Energy- Delaware Division

| | |
|---|---|
| Sample Delivery Group: | L959672 |
| Samples Received: | 12/23/2017 |
| Project Number: | 30-015-22162 |
| Description: | Confirmation Soil Samples |
| Site: | JAMES RANCH UNIT #12H |
| Report To: | Kyle Littrell<br>6401 N Holiday Hill Rd<br>Suite 200<br>Midland, TX 79707 |

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## SS-1 L959672-01 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 08:51 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 02:45 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 00:31 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 02:01 | ACM |

## SS-2 L959672-02 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 08:54 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 02:54 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 00:53 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 01:18 | ACM |

## SS-3 L959672-03 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:08 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 03:02 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 01:16 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 01:32 | ACM |

## SS-4 L959672-04 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:12 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 03:28 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 01:39 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 01:47 | ACM |

## SS-5 L959672-05 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:14 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 03:36 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 02:01 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 02:15 | ACM |

## SS-6 L959672-06 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:16 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058631 | 1 | 01/02/18 08:08 | 01/02/18 08:25 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 03:45 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 04:39 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 03:00 | ACM |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## SS-7 L959672-07 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:18 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058632 | 1 | 01/02/18 08:44 | 01/02/18 08:55 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 03:53 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 02:24 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 03:15 | ACM |

## SS-8 L959672-08 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:20 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058632 | 1 | 01/02/18 08:44 | 01/02/18 08:55 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 04:02 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 02:46 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 03:30 | ACM |

## SS-9 L959672-09 Solid

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Aaron Williamson | 12/20/17 09:23 | 12/23/17 09:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1058632 | 1 | 01/02/18 08:44 | 01/02/18 08:55 | KDW |
| Wet Chemistry by Method 300.0 | WG1057207 | 1 | 12/26/17 21:16 | 12/27/17 04:10 | KCF |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1057816 | 1 | 12/27/17 13:48 | 12/28/17 03:09 | BMB |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1058721 | 1 | 01/02/18 09:49 | 01/03/18 10:25 | ACM |

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Technical Service Representative

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 83.4 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 63.4 | | 12.0 | 1 | 12/27/2017 02:45 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000914 | B | 0.000600 | 1 | 12/28/2017 00:31 | WG1057816 |
| Toluene | ND | | 0.00600 | 1 | 12/28/2017 00:31 | WG1057816 |
| Ethylbenzene | ND | | 0.000600 | 1 | 12/28/2017 00:31 | WG1057816 |
| Total Xylene | ND | | 0.00180 | 1 | 12/28/2017 00:31 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.120 | 1 | 12/28/2017 00:31 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.2* | | *77.0-120* | | *12/28/2017 00:31* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *102* | | *75.0-128* | | *12/28/2017 00:31* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.80 | 1 | 01/03/2018 02:01 | WG1058721 |
| C28-C40 Oil Range | ND | | 4.80 | 1 | 01/03/2018 02:01 | WG1058721 |
| *(S) o-Terphenyl* | *50.5* | | *18.0-148* | | *01/03/2018 02:01* | WG1058721 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 75.6 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | ND | | 13.2 | 1 | 12/27/2017 02:54 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000813 | B | 0.000661 | 1 | 12/28/2017 00:53 | WG1057816 |
| Toluene | ND | | 0.00661 | 1 | 12/28/2017 00:53 | WG1057816 |
| Ethylbenzene | ND | | 0.000661 | 1 | 12/28/2017 00:53 | WG1057816 |
| Total Xylene | ND | | 0.00198 | 1 | 12/28/2017 00:53 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.132 | 1 | 12/28/2017 00:53 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.8* | | *77.0-120* | | *12/28/2017 00:53* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 00:53* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 5.29 | 1 | 01/03/2018 01:18 | WG1058721 |
| C28-C40 Oil Range | ND | | 5.29 | 1 | 01/03/2018 01:18 | WG1058721 |
| *(S) o-Terphenyl* | *46.9* | | *18.0-148* | | *01/03/2018 01:18* | WG1058721 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 82.9 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 115 | | 12.1 | 1 | 12/27/2017 03:02 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00156 | B | 0.000603 | 1 | 12/28/2017 01:16 | WG1057816 |
| Toluene | ND | | 0.00603 | 1 | 12/28/2017 01:16 | WG1057816 |
| Ethylbenzene | ND | | 0.000603 | 1 | 12/28/2017 01:16 | WG1057816 |
| Total Xylene | ND | | 0.00181 | 1 | 12/28/2017 01:16 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.121 | 1 | 12/28/2017 01:16 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.4* | | *77.0-120* | | *12/28/2017 01:16* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *102* | | *75.0-128* | | *12/28/2017 01:16* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.83 | 1 | 01/03/2018 01:32 | WG1058721 |
| C28-C40 Oil Range | ND | | 4.83 | 1 | 01/03/2018 01:32 | WG1058721 |
| *(S) o-Terphenyl* | *44.9* | | *18.0-148* | | *01/03/2018 01:32* | WG1058721 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 82.0 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 79.2 | | 12.2 | 1 | 12/27/2017 03:28 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.00119 | B | 0.000610 | 1 | 12/28/2017 01:39 | WG1057816 |
| Toluene | ND | | 0.00610 | 1 | 12/28/2017 01:39 | WG1057816 |
| Ethylbenzene | ND | | 0.000610 | 1 | 12/28/2017 01:39 | WG1057816 |
| Total Xylene | ND | | 0.00183 | 1 | 12/28/2017 01:39 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.122 | 1 | 12/28/2017 01:39 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.9* | | *77.0-120* | | *12/28/2017 01:39* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 01:39* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.88 | 1 | 01/03/2018 01:47 | WG1058721 |
| C28-C40 Oil Range | ND | | 4.88 | 1 | 01/03/2018 01:47 | WG1058721 |
| *(S) o-Terphenyl* | *54.0* | | *18.0-148* | | *01/03/2018 01:47* | WG1058721 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 89.7 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 46.3 | | 11.2 | 1 | 12/27/2017 03:36 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000558 | 1 | 12/28/2017 02:01 | WG1057816 |
| Toluene | ND | | 0.00558 | 1 | 12/28/2017 02:01 | WG1057816 |
| Ethylbenzene | ND | | 0.000558 | 1 | 12/28/2017 02:01 | WG1057816 |
| Total Xylene | ND | | 0.00167 | 1 | 12/28/2017 02:01 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.112 | 1 | 12/28/2017 02:01 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.2* | | *77.0-120* | | *12/28/2017 02:01* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 02:01* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.46 | 1 | 01/03/2018 02:15 | WG1058721 |
| C28-C40 Oil Range | ND | | 4.46 | 1 | 01/03/2018 02:15 | WG1058721 |
| *(S) o-Terphenyl* | *63.2* | | *18.0-148* | | *01/03/2018 02:15* | WG1058721 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 81.1 | | 1 | 01/02/2018 08:25 | WG1058631 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 88.1 | | 12.3 | 1 | 12/27/2017 03:45 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000982 | B | 0.000616 | 1 | 12/28/2017 04:39 | WG1057816 |
| Toluene | ND | | 0.00616 | 1 | 12/28/2017 04:39 | WG1057816 |
| Ethylbenzene | ND | | 0.000616 | 1 | 12/28/2017 04:39 | WG1057816 |
| Total Xylene | ND | J6 | 0.00185 | 1 | 12/28/2017 04:39 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | J3 | 0.123 | 1 | 12/28/2017 04:39 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.1* | | *77.0-120* | | *12/28/2017 04:39* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 04:39* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.93 | 1 | 01/03/2018 03:00 | WG1058721 |
| C28-C40 Oil Range | ND | | 4.93 | 1 | 01/03/2018 03:00 | WG1058721 |
| *(S) o-Terphenyl* | *55.3* | | *18.0-148* | | *01/03/2018 03:00* | WG1058721 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 73.7 | | 1 | 01/02/2018 08:55 | WG1058632 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 75.5 | | 13.6 | 1 | 12/27/2017 03:53 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000679 | 1 | 12/28/2017 02:24 | WG1057816 |
| Toluene | ND | | 0.00679 | 1 | 12/28/2017 02:24 | WG1057816 |
| Ethylbenzene | ND | | 0.000679 | 1 | 12/28/2017 02:24 | WG1057816 |
| Total Xylene | ND | | 0.00204 | 1 | 12/28/2017 02:24 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.136 | 1 | 12/28/2017 02:24 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.8* | | *77.0-120* | | *12/28/2017 02:24* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 02:24* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 5.43 | 1 | 01/03/2018 03:15 | WG1058721 |
| C28-C40 Oil Range | ND | | 5.43 | 1 | 01/03/2018 03:15 | WG1058721 |
| *(S) o-Terphenyl* | *51.9* | | *18.0-148* | | *01/03/2018 03:15* | WG1058721 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 76.5 | | 1 | 01/02/2018 08:55 | WG1058632 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 52.2 | | 13.1 | 1 | 12/27/2017 04:02 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000653 | 1 | 12/28/2017 02:46 | WG1057816 |
| Toluene | ND | | 0.00653 | 1 | 12/28/2017 02:46 | WG1057816 |
| Ethylbenzene | ND | | 0.000653 | 1 | 12/28/2017 02:46 | WG1057816 |
| Total Xylene | ND | | 0.00196 | 1 | 12/28/2017 02:46 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.131 | 1 | 12/28/2017 02:46 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.2* | | *77.0-120* | | *12/28/2017 02:46* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 02:46* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 5.23 | 1 | 01/03/2018 03:30 | WG1058721 |
| C28-C40 Oil Range | ND | | 5.23 | 1 | 01/03/2018 03:30 | WG1058721 |
| *(S) o-Terphenyl* | *42.3* | | *18.0-148* | | *01/03/2018 03:30* | WG1058721 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 79.8 | | 1 | 01/02/2018 08:55 | WG1058632 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 79.6 | | 12.5 | 1 | 12/27/2017 04:10 | WG1057207 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | 0.000728 | B | 0.000627 | 1 | 12/28/2017 03:09 | WG1057816 |
| Toluene | ND | | 0.00627 | 1 | 12/28/2017 03:09 | WG1057816 |
| Ethylbenzene | ND | | 0.000627 | 1 | 12/28/2017 03:09 | WG1057816 |
| Total Xylene | ND | | 0.00188 | 1 | 12/28/2017 03:09 | WG1057816 |
| TPH (GC/FID) Low Fraction | ND | | 0.125 | 1 | 12/28/2017 03:09 | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *92.0* | | *77.0-120* | | *12/28/2017 03:09* | WG1057816 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *103* | | *75.0-128* | | *12/28/2017 03:09* | WG1057816 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 5.01 | 1 | 01/03/2018 10:25 | WG1058721 |
| C28-C40 Oil Range | ND | | 5.01 | 1 | 01/03/2018 10:25 | WG1058721 |
| *(S) o-Terphenyl* | *57.6* | | *18.0-148* | | *01/03/2018 10:25* | WG1058721 |

# QUALITY CONTROL SUMMARY

L959672-01,02,03,04,05,06

Total Solids by Method 2540 G-2011

## Method Blank (MB)

(MB) R3277132-1 01/02/18 08:25

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0 | | | |

## L959669-06 Original Sample (OS) • Duplicate (DUP)

(OS) L959669-06 01/02/18 08:25 • (DUP) R3277132-3 01/02/18 08:25

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 94.1 | 93.7 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3277132-2 01/02/18 08:25

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3277133-1 01/02/18 08:55

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.001 | | | |

## L959675-04 Original Sample (OS) • Duplicate (DUP)

(OS) L959675-04 01/02/18 08:55 • (DUP) R3277133-3 01/02/18 08:55

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 99.1 | 99.1 | 1 | 0 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3277133-2 01/02/18 08:55

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85-115 | |

## Method Blank (MB)

(MB) R3275848-1 12/26/17 23:29

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Chloride | U | | 0.795 | 10.0 |

## L959663-01 Original Sample (OS) • Duplicate (DUP)

(OS) L959663-01 12/27/17 00:29 • (DUP) R3275848-4 12/27/17 00:37

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 242 | 245 | 1 | 1.31 | | 20 |

## L959672-09 Original Sample (OS) • Duplicate (DUP)

(OS) L959672-09 12/27/17 04:10 • (DUP) R3275848-7 12/27/17 04:19

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 79.6 | 77.9 | 1 | 2.06 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275848-2 12/26/17 23:38 • (LCSD) R3275848-3 12/26/17 23:46

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Chloride | 200 | 197 | 197 | 98.7 | 98.5 | 90-110 | | | 0.198 | 20 |

## L959669-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959669-05 12/27/17 02:11 • (MS) R3275848-5 12/27/17 02:20 • (MSD) R3275848-6 12/27/17 02:28

| Analyte | Spike Amount (dry) | Original Result (dry) | MS Result (dry) | MSD Result (dry) | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Chloride | 646 | 211 | 845 | 914 | 98.2 | 109 | 1 | 80-120 | | | 7.76 | 20 |

## Method Blank (MB)

(MB) R3276351-5 12/27/17 22:20

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Benzene | 0.000267 | J | 0.000120 | 0.000500 |
| Toluene | 0.000182 | J | 0.000150 | 0.00500 |
| Ethylbenzene | 0.000118 | J | 0.000110 | 0.000500 |
| Total Xylene | U | | 0.000460 | 0.00150 |
| TPH (GC/FID) Low Fraction | 0.0282 | J | 0.0217 | 0.100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *93.9* | | | *77.0-120* |
| *(S) a,a,a-Trifluorotoluene(PID)* | *105* | | | *75.0-128* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276351-1 12/27/17 16:17 • (LCSD) R3276351-2 12/27/17 16:40

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0449 | 0.0480 | 89.9 | 96.1 | 71.0-121 | | | 6.67 | 20 |
| Toluene | 0.0500 | 0.0477 | 0.0507 | 95.4 | 101 | 72.0-120 | | | 6.07 | 20 |
| Ethylbenzene | 0.0500 | 0.0465 | 0.0499 | 93.0 | 99.7 | 76.0-121 | | | 7.03 | 20 |
| Total Xylene | 0.150 | 0.144 | 0.155 | 95.7 | 103 | 75.0-124 | | | 7.71 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *93.0* | *93.1* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *104* | *103* | *75.0-128* | | | | |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276351-3 12/27/17 17:02 • (LCSD) R3276351-4 12/27/17 17:25

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 5.67 | 5.59 | 103 | 102 | 70.0-136 | | | 1.51 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *112* | *112* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *122* | *123* | *75.0-128* | | | | |

## L959672-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959672-06 12/28/17 04:39 • (MS) R3276351-6 12/28/17 05:02 • (MSD) R3276351-7 12/28/17 05:25

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0616 | 0.000982 | 0.0216 | 0.0187 | 33.5 | 28.7 | 1 | 10.0-146 | | | 14.6 | 29 |
| Toluene | 0.0616 | ND | 0.0235 | 0.0202 | 36.8 | 31.5 | 1 | 10.0-143 | | | 15.0 | 30 |
| Ethylbenzene | 0.0616 | ND | 0.0247 | 0.0213 | 39.3 | 33.8 | 1 | 10.0-147 | | | 14.8 | 31 |
| Total Xylene | 0.185 | ND | 0.0728 | 0.0649 | 38.9 | 34.6 | 1 | 10.0-149 | J6 | J6 | 11.4 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *91.7* | *86.5* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *102* | *96.8* | | *75.0-128* | | | | |

## L959672-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959672-06 12/28/17 04:39 • (MS) R3276351-8 12/28/17 05:47 • (MSD) R3276351-9 12/28/17 06:10

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 6.78 | ND | 2.53 | 1.21 | 36.7 | 17.4 | 1 | 10.0-147 | | J3 | 70.1 | 30 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *95.0* | *80.6* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *106* | *91.0* | | *75.0-128* | | | | |

## Method Blank (MB)

(MB) R3277159-1 01/03/18 00:33

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *64.5* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3277159-2 01/03/18 00:48 • (LCSD) R3277159-3 01/03/18 01:02

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 60.0 | 31.6 | 30.6 | 52.7 | 51.0 | 50.0-150 | | | 3.13 | 20 |
| *(S) o-Terphenyl* | | | | *65.6* | *61.2* | *18.0-148* | | | | |

## L959672-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959672-05 01/03/18 02:15 • (MS) R3277159-4 01/03/18 02:30 • (MSD) R3277159-5 01/03/18 02:45

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 Diesel Range | 66.9 | ND | 38.4 | 38.7 | 57.4 | 57.9 | 1 | 50.0-150 | | | 0.891 | 20 |
| *(S) o-Terphenyl* | | | | | *69.5* | *65.6* | | *18.0-148* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

| | |
|---|---|
| (dry) | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils]. |
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| RDL (dry) | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nevada | TN-03-2002-34 |
| Alaska | UST-080 | New Hampshire | 2975 |
| Arizona | AZ0612 | New Jersey–NELAP | TN002 |
| Arkansas | 88-0469 | New Mexico | TN00003 |
| California | 01157CA | New York | 11742 |
| Colorado | TN00003 | North Carolina | Env375 |
| Connecticut | PH-0197 | North Carolina [1] | DW21704 |
| Florida | E87487 | North Carolina [2] | 41 |
| Georgia | NELAP | North Dakota | R-140 |
| Georgia [1] | 923 | Ohio–VAP | CL0069 |
| Idaho | TN00003 | Oklahoma | 9915 |
| Illinois | 200008 | Oregon | TN200002 |
| Indiana | C-TN-01 | Pennsylvania | 68-02979 |
| Iowa | 364 | Rhode Island | 221 |
| Kansas | E-10277 | South Carolina | 84004 |
| Kentucky [1] | 90010 | South Dakota | n/a |
| Kentucky [2] | 16 | Tennessee [14] | 2006 |
| Louisiana | AI30792 | Texas | T 104704245-07-TX |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | 6157585858 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 109 |
| Minnesota | 047-999-395 | Washington | C1915 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |
| Nebraska | NE-OS-15-05 | | |

## Third Party & Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | S-67674 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



LT Environmental

Billing Information: XTO

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORIES

Report to: Kyle Littrell

Email To: Kyle_Littrell@xtoenergy.com, Abaker@LTenv.com

Project Description: Confirmation Soil Samples

City/State Collected: NM

Phone: Fax: 1-970-317-1867

Client Project #: 30-015-22162

Lab Project #

Collected by (print): Aaron Williamson

Site/Facility ID #: (2RP-3662) James Ranch Unit #124

P.O. #: 012917050

Collected by (signature): Aaron Williamson

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ✓ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | BTEX - EPA Method 8021 | TPH - EPA Method 8015 | Chloride - EPA Method 300.1 | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-1 | Grab | SS | 2.5' | 12/20/17 | 08:51 | 1 | ✓ | ✓ | ✓ | | -01 |
| SS-2 | Grab | SS | 1.5' | 12/20/17 | 08:54 | 1 | ✓ | ✓ | ✓ | | 02 |
| SS-3 | Grab | SS | 1.5' | 12/20/17 | 09:08 | 1 | ✓ | ✓ | ✓ | | 03 |
| SS-4 | Grab | SS | 1.5' | 12/20/17 | 09:12 | 1 | ✓ | ✓ | ✓ | | 04 |
| SS-5 | Grab | SS | 1.5' | 12/20/17 | 09:14 | 1 | ✓ | ✓ | ✓ | | 05 |
| SS-6 | Grab | SS | 2' | 12/20/17 | 09:16 | 1 | ✓ | ✓ | ✓ | | 06 |
| SS-7 | Grab | SS | 1.5' | 12/20/17 | 09:18 | 1 | ✓ | ✓ | ✓ | | 07 |
| SS-8 | Grab | SS | 1.5' | 12/20/17 | 09:20 | 1 | ✓ | ✓ | ✓ | | 08 |
| SS-9 | Grab | SS | 4' | 12/20/17 | 09:23 | 1 | ✓ | ✓ | ✓ | | 09 |
| NFE. Area | | | | | | | | | | | |

L959672

G101

Acctnum: XTOMRK

Template:

Prelogin:

TSR:

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH ____ Temp ____

Flow ____ Other ____

Samples returned via: ___ UPS ___ FedEx ___ Courier XDV

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeOH TBR |
|---|---|---|---|---|
| Aaron Williamson | 12/20/17 | 19:03 | | |
| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) | Temp: 4.5 50 °C Bottles Received: 9 |
| | 12/21/17 | 14:30 | Southwest Airlines | |
| Relinquished by: (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 12-23-17 Time: 0945 |
| | | | | Hold: Condition: NCF / OK |

If preservation required by Login: Date/Time

ESCOTK

Received by OCD: 12/11/2020 11:30:06 AM

Jeremy W. Watkins

# ESC Lab Sciences
# Non-Conformance Form

| Login #: L9596672 | Client: XTORNM | Date: 12/23/17 | Evaluated by: Jeremy |
|---|---|---|---|

**Non-Conformance (check applicable items)**

| | Sample Integrity | | Chain of Custody Clarification | | |
|---|---|---|---|---|---|
| | Parameter(s) past holding time | x | Login Clarification Needed | | **If Broken Container:** |
| | Improper temperature | | Chain of custody is incomplete | | Insufficient packing material around container |
| | Improper container type | | Please specify Metals requested. | | Insufficient packing material inside cooler |
| | Improper preservation | | Please specify TCLP requested. | | Improper handling by carrier (FedEx / UPS / Courie |
| | Insufficient sample volume. | | Received additional samples not listed on coc. | | Sample was frozen |
| | Sample is biphasic. | | Sample ids on containers do not match ids on coc | | Container lid not intact |
| | Vials received with headspace. | | Trip Blank not received. | | **If no Chain of Custody:** |
| | Broken container | | Client did not "X" analysis. | | Received by: |
| | Broken container: | | Chain of Custody is missing | | Date/Time: |
| | Sufficient sample remains | | | | Temp./Cont. Rec./pH: |
| | | | | | Carrier: |
| | | | | | Tracking# |

**Login Comments: What TPH?**

| Client informed by: | | Call | | Email | | Voice Mail | | Date: 12/23/17 | Time: 2:40pm |
|---|---|---|---|---|---|---|---|---|---|
| TSR Initials: NM | Client Contact: | | | | | | | | |

**Login Instructions:**

These are logged correctly.

**This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.**

# Analytical Report 575589

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**Well #127/ 30-015-43231**

**15-FEB-18**

Collected By: Client






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

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

15-FEB-18

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

Reference: XENCO Report No(s): **575589**
**Well #127/ 30-015-43231**
Project Address: NM

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 575589. 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. 575589 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**
Odessa Laboratory Director

***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 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS1 | S | 02-05-18 15:00 | 6" | 575589-001 |
| SS2 | S | 02-05-18 15:03 | 6" | 575589-002 |
| SS3 | S | 02-05-18 15:06 | 6" | 575589-003 |
| SS4 | S | 02-05-18 15:09 | 6" | 575589-004 |
| SS5 | S | 02-05-18 15:12 | 6" | 575589-005 |
| SS6 | S | 02-05-18 15:15 | 6" | 575589-006 |
| SS7 | S | 02-05-18 15:18 | 6" | 575589-007 |
| SS8 | S | 02-05-18 15:21 | 6" | 575589-008 |
| SS9 | S | 02-05-18 15:24 | 6" | 575589-009 |
| SS10 | S | 02-05-18 15:27 | 6" | 575589-010 |
| SS11 | S | 02-05-18 15:30 | 6" | 575589-011 |
| SS12 | S | 02-05-18 15:33 | 6" | 575589-012 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: Well #127/ 30-015-43231***

Project ID:
Work Order Number(s): *575589*

Report Date: *15-FEB-18*
Date Received: *02/07/2018*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3040899 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3040912 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041118 Inorganic Anions by EPA 300
Lab Sample ID 575589-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 575589-001, -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.

# Certificate of Analysis Summary 575589

## LT Environmental, Inc., Arvada, CO

## Project Name: Well #127/ 30-015-43231

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** NM

**Date Received in Lab:** Wed Feb-07-18 08:00 am

**Report Date:** 15-FEB-18

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 575589-001 | | 575589-002 | | 575589-003 | | 575589-004 | | 575589-005 | | 575589-006 | |
| | ***Field Id:*** | SS1 | | SS2 | | SS3 | | SS4 | | SS5 | | SS6 | |
| | ***Depth:*** | 6"- | | 6"- | | 6"- | | 6"- | | 6"- | | 6"- | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-05-18 15:00 | | Feb-05-18 15:03 | | Feb-05-18 15:06 | | Feb-05-18 15:09 | | Feb-05-18 15:12 | | Feb-05-18 15:15 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-13-18 10:00 | |
| | ***Analyzed:*** | Feb-12-18 10:21 | | Feb-12-18 10:39 | | Feb-12-18 10:58 | | Feb-12-18 11:16 | | Feb-12-18 11:35 | | Feb-13-18 19:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00401 | 0.00401 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | |
| | ***Analyzed:*** | Feb-15-18 10:11 | | Feb-15-18 10:36 | | Feb-15-18 10:42 | | Feb-15-18 10:47 | | Feb-15-18 10:52 | | Feb-15-18 11:08 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 297 | 4.96 | 666 | 25.0 | 555 | 24.8 | 538 | 24.7 | 511 | 25.0 | <4.99 | 4.99 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | |
| | ***Analyzed:*** | Feb-12-18 15:26 | | Feb-12-18 15:47 | | Feb-12-18 16:49 | | Feb-12-18 17:10 | | Feb-12-18 17:31 | | Feb-12-18 17:53 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Oil Range Hydrocarbons (ORO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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



Jessica Kramer

Jessica Kramer
Odessa Laboratory Director

# Certificate of Analysis Summary 575589

## LT Environmental, Inc., Arvada, CO

## Project Name: Well #127/ 30-015-43231

**Project Id:**

**Contact:** Adrian Baker

**Project Location:** NM

**Date Received in Lab:** Wed Feb-07-18 08:00 am

**Report Date:** 15-FEB-18

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 575589-007 | | 575589-008 | | 575589-009 | | 575589-010 | | 575589-011 | | 575589-012 | |
| | ***Field Id:*** | SS7 | | SS8 | | SS9 | | SS10 | | SS11 | | SS12 | |
| | ***Depth:*** | 6"- | | 6"- | | 6"- | | 6"- | | 6"- | | 6"- | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Feb-05-18 15:18 | | Feb-05-18 15:21 | | Feb-05-18 15:24 | | Feb-05-18 15:27 | | Feb-05-18 15:30 | | Feb-05-18 15:33 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-13-18 10:00 | | Feb-13-18 10:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | |
| | ***Analyzed:*** | Feb-12-18 14:45 | | Feb-12-18 15:04 | | Feb-13-18 19:36 | | Feb-13-18 19:54 | | Feb-12-18 16:00 | | Feb-12-18 16:18 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Toluene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00396 | 0.00396 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00200 | 0.00200 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | | Feb-14-18 17:00 | |
| | ***Analyzed:*** | Feb-15-18 11:13 | | Feb-15-18 11:19 | | Feb-15-18 11:24 | | Feb-15-18 11:29 | | Feb-15-18 11:35 | | Feb-15-18 11:51 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <5.00 | 5.00 | 8.56 | 5.00 | <5.00 | 5.00 | 5.30 | 4.97 | <5.00 | 5.00 | 1030 | 4.94 |
| **TPH by SW8015 Mod** | ***Extracted:*** | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | | Feb-12-18 09:00 | |
| | ***Analyzed:*** | Feb-12-18 18:14 | | Feb-12-18 18:34 | | Feb-12-18 18:53 | | Feb-12-18 19:13 | | Feb-12-18 19:33 | | Feb-12-18 19:54 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Oil Range Hydrocarbons (ORO) | | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <14.9 | 14.9 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Odessa Laboratory Director

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS1** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-001 | Date Collected: | 02.05.18 15.00 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **297** | 4.96 | mg/kg | 02.15.18 10.11 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 15.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 15.26 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 15.26 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 15.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 02.12.18 15.26 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 02.12.18 15.26 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS1** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-001 | Date Collected: | 02.05.18 15.00 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.12.18 10.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.12.18 10.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 85 | % | 80-120 | 02.12.18 10.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 92 | % | 80-120 | 02.12.18 10.21 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS2** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-002 | Date Collected: | 02.05.18 15.03 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **666** | 25.0 | mg/kg | 02.15.18 10.36 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.12.18 15.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.12.18 15.47 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.12.18 15.47 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.12.18 15.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 02.12.18 15.47 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.18 15.47 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS2** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-002 | Date Collected: | 02.05.18 15.03 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.12.18 10.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 80-120 | 02.12.18 10.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 82 | % | 80-120 | 02.12.18 10.39 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS3** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-003 | Date Collected: | 02.05.18 15.06 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **555** | 24.8 | mg/kg | 02.15.18 10.42 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 16.49 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 16.49 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 16.49 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 16.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 02.12.18 16.49 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 02.12.18 16.49 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS3** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-003 | Date Collected: | 02.05.18 15.06 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 02.12.18 10.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.12.18 10.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 80-120 | 02.12.18 10.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 84 | % | 80-120 | 02.12.18 10.58 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS4** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-004 | Date Collected: | 02.05.18 15.09 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **538** | 24.7 | mg/kg | 02.15.18 10.47 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 17.10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 17.10 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 17.10 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 17.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.12.18 17.10 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 02.12.18 17.10 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS4** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-004 | Date Collected: | 02.05.18 15.09 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.12.18 11.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.12.18 11.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 80-120 | 02.12.18 11.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 80-120 | 02.12.18 11.16 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS5** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-005 | Date Collected: | 02.05.18 15.12 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **511** | 25.0 | mg/kg | 02.15.18 10.52 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 17.31 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 17.31 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 17.31 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 17.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 02.12.18 17.31 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.12.18 17.31 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS5** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-005 | Date Collected: | 02.05.18 15.12 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.12.18 11.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.12.18 11.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 82 | % | 80-120 | 02.12.18 11.35 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 80-120 | 02.12.18 11.35 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS6** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-006 | Date Collected: | 02.05.18 15.15 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 02.15.18 11.08 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 17.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 17.53 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 17.53 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 17.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 02.12.18 17.53 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.12.18 17.53 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS6** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-006 | Date Collected: | 02.05.18 15.15 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.13.18 10.00 | Basis: | Wet Weight |
| Seq Number: | 3040912 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.13.18 19.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.13.18 19.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 80-120 | 02.13.18 19.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 92 | % | 80-120 | 02.13.18 19.18 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS7** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-007 | Date Collected: | 02.05.18 15.18 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 02.15.18 11.13 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.12.18 18.14 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.12.18 18.14 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.12.18 18.14 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.12.18 18.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 02.12.18 18.14 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.18 18.14 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS7** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-007 | Date Collected: | 02.05.18 15.18 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 02.12.18 14.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 02.12.18 14.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 80-120 | 02.12.18 14.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 82 | % | 80-120 | 02.12.18 14.45 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS8** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-008 | Date Collected: | 02.05.18 15.21 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **8.56** | 5.00 | mg/kg | 02.15.18 11.19 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 02.12.18 18.34 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 02.12.18 18.34 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 02.12.18 18.34 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 02.12.18 18.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 02.12.18 18.34 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 02.12.18 18.34 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS8** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-008 | Date Collected: | 02.05.18 15.21 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 02.12.18 15.04 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 02.12.18 15.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 80-120 | 02.12.18 15.04 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 80-120 | 02.12.18 15.04 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS9** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-009 | Date Collected: | 02.05.18 15.24 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 02.15.18 11.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 18.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 18.53 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 18.53 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 18.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 02.12.18 18.53 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 02.12.18 18.53 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS9** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-009 | Date Collected: | 02.05.18 15.24 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.13.18 10.00 | Basis: | Wet Weight |
| Seq Number: | 3040912 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.13.18 19.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.13.18 19.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 91 | % | 80-120 | 02.13.18 19.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 80-120 | 02.13.18 19.36 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

Sample Id: **SS10** Matrix: Soil Date Received:02.07.18 08.00

Lab Sample Id: 575589-010 Date Collected: 02.05.18 15.27 Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: OJS % Moisture:

Analyst: OJS Date Prep: 02.14.18 17.00 Basis: Wet Weight

Seq Number: 3041118

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.30** | 4.97 | mg/kg | 02.15.18 11.29 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 02.12.18 09.00 Basis: Wet Weight

Seq Number: 3040880

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 19.13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 19.13 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 19.13 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 19.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 02.12.18 19.13 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.12.18 19.13 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS10** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-010 | Date Collected: | 02.05.18 15.27 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.13.18 10.00 | Basis: | Wet Weight |
| Seq Number: | 3040912 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 02.13.18 19.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 02.13.18 19.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 84 | % | 80-120 | 02.13.18 19.54 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 80-120 | 02.13.18 19.54 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS11** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-011 | Date Collected: | 02.05.18 15.30 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 02.15.18 11.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 19.33 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 19.33 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 19.33 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 19.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 101 | % | 70-135 | 02.12.18 19.33 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 02.12.18 19.33 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS11** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-011 | Date Collected: | 02.05.18 15.30 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 02.12.18 16.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 02.12.18 16.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 80-120 | 02.12.18 16.00 | |
| 1,4-Difluorobenzene | 540-36-3 | 87 | % | 80-120 | 02.12.18 16.00 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS12** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-012 | Date Collected: | 02.05.18 15.33 | Sample Depth: | 6" |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Inorganic Anions by EPA 300 | | | Prep Method: | E300P |
| Tech: | OJS | | | % Moisture: | |
| Analyst: | OJS | Date Prep: | 02.14.18 17.00 | Basis: | Wet Weight |
| Seq Number: | 3041118 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1030** | 4.94 | mg/kg | 02.15.18 11.51 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040880 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 02.12.18 19.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 02.12.18 19.54 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 02.12.18 19.54 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 02.12.18 19.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 02.12.18 19.54 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 02.12.18 19.54 | |

# Certificate of Analytical Results 575589

## LT Environmental, Inc., Arvada, CO

Well #127/ 30-015-43231

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS12** | Matrix: | Soil | Date Received: | 02.07.18 08.00 |
| Lab Sample Id: | 575589-012 | Date Collected: | 02.05.18 15.33 | Sample Depth: | 6" |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 02.12.18 09.00 | Basis: | Wet Weight |
| Seq Number: | 3040899 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 02.12.18 16.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 02.12.18 16.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 81 | % | 80-120 | 02.12.18 16.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 80-120 | 02.12.18 16.18 | |

# 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

+ NELAC certification not offered for this compound.

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

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| 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282 | (602) 437-0330 | |

# QC Summary 575589



## LT Environmental, Inc.

Well #127/ 30-015-43231

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3041118 — Matrix: Solid — Date Prep: 02.14.18
MB Sample Id: 7639166-1-BLK — LCS Sample Id: 7639166-1-BKS — LCSD Sample Id: 7639166-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 272 | 109 | 266 | 106 | 90-110 | 2 | 20 | mg/kg | 02.15.18 09:46 | |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3041118 — Matrix: Soil — Date Prep: 02.14.18
Parent Sample Id: 575589-001 — MS Sample Id: 575589-001 S — MSD Sample Id: 575589-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 297 | 248 | 540 | 98 | 606 | 125 | 90-110 | 12 | 20 | mg/kg | 02.15.18 10:31 | X |

**Analytical Method:** Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3041118 — Matrix: Soil — Date Prep: 02.14.18
Parent Sample Id: 575589-011 — MS Sample Id: 575589-011 S — MSD Sample Id: 575589-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 275 | 110 | 281 | 112 | 90-110 | 2 | 20 | mg/kg | 02.15.18 11:40 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3040880 — Matrix: Solid — Date Prep: 02.12.18
MB Sample Id: 7639019-1-BLK — LCS Sample Id: 7639019-1-BKS — LCSD Sample Id: 7639019-1-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 | 854 | 85 | 973 | 97 | 70-135 | 13 | 35 | mg/kg | 02.12.18 11:03 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 966 | 97 | 1060 | 106 | 70-135 | 9 | 35 | mg/kg | 02.12.18 11:03 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | | 113 | | 123 | | 70-135 | % | 02.12.18 11:03 |
| o-Terphenyl | 104 | | 106 | | 124 | | 70-135 | % | 02.12.18 11:03 |

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

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

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

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

# QC Summary 575589



## LT Environmental, Inc.

Well #127/ 30-015-43231

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3040880 Matrix: Soil Date Prep: 02.12.18
Parent Sample Id: 576109-001 MS Sample Id: 576109-001 S MSD Sample Id: 576109-001 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 | 998 | 948 | 95 | 856 | 86 | 70-135 | 10 | 35 | mg/kg | 02.12.18 12:04 | |
| Diesel Range Organics (DRO) | <15.0 | 998 | 1050 | 105 | 980 | 98 | 70-135 | 7 | 35 | mg/kg | 02.12.18 12:04 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 109 | | 99 | | 70-135 | % | 02.12.18 12:04 |
| o-Terphenyl | 107 | | 97 | | 70-135 | % | 02.12.18 12:04 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040899 Matrix: Solid Date Prep: 02.12.18
MB Sample Id: 7639034-1-BLK LCS Sample Id: 7639034-1-BKS LCSD Sample Id: 7639034-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0994 | 0.101 | 102 | 0.105 | 105 | 70-130 | 4 | 35 | mg/kg | 02.12.18 08:26 | |
| Toluene | <0.00199 | 0.0994 | 0.0964 | 97 | 0.100 | 100 | 70-130 | 4 | 35 | mg/kg | 02.12.18 08:26 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.101 | 102 | 0.105 | 105 | 71-129 | 4 | 35 | mg/kg | 02.12.18 08:26 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.196 | 98 | 0.204 | 102 | 70-135 | 4 | 35 | mg/kg | 02.12.18 08:26 | |
| o-Xylene | <0.00199 | 0.0994 | 0.0987 | 99 | 0.103 | 103 | 71-133 | 4 | 35 | mg/kg | 02.12.18 08:26 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 86 | | 80 | | 83 | | 80-120 | % | 02.12.18 08:26 |
| 4-Bromofluorobenzene | 92 | | 104 | | 109 | | 80-120 | % | 02.12.18 08:26 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040912 Matrix: Solid Date Prep: 02.13.18
MB Sample Id: 7639041-1-BLK LCS Sample Id: 7639041-1-BKS LCSD Sample Id: 7639041-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0990 | 0.0991 | 100 | 0.0885 | 89 | 70-130 | 11 | 35 | mg/kg | 02.13.18 11:26 | |
| Toluene | <0.00198 | 0.0990 | 0.0965 | 97 | 0.0869 | 87 | 70-130 | 10 | 35 | mg/kg | 02.13.18 11:26 | |
| Ethylbenzene | <0.00198 | 0.0990 | 0.100 | 101 | 0.0903 | 90 | 71-129 | 10 | 35 | mg/kg | 02.13.18 11:26 | |
| m,p-Xylenes | <0.00396 | 0.198 | 0.195 | 98 | 0.176 | 88 | 70-135 | 10 | 35 | mg/kg | 02.13.18 11:26 | |
| o-Xylene | <0.00198 | 0.0990 | 0.0993 | 100 | 0.0899 | 90 | 71-133 | 10 | 35 | mg/kg | 02.13.18 11:26 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 82 | | 88 | | 92 | | 80-120 | % | 02.13.18 11:26 |
| 4-Bromofluorobenzene | 112 | | 119 | | 115 | | 80-120 | % | 02.13.18 11:26 |

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

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

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

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

# QC Summary 575589



## LT Environmental, Inc.

Well #127/ 30-015-43231

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040899 Matrix: Soil Date Prep: 02.12.18
Parent Sample Id: 575589-001 MS Sample Id: 575589-001 S MSD Sample Id: 575589-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | 0.100 | 0.0751 | 75 | 0.0796 | 79 | 70-130 | 6 | 35 | mg/kg | 02.12.18 09:08 | |
| Toluene | <0.00201 | 0.100 | 0.0745 | 75 | 0.0779 | 77 | 70-130 | 4 | 35 | mg/kg | 02.12.18 09:08 | |
| Ethylbenzene | <0.00201 | 0.100 | 0.0772 | 77 | 0.0802 | 79 | 71-129 | 4 | 35 | mg/kg | 02.12.18 09:08 | |
| m,p-Xylenes | <0.00402 | 0.201 | 0.151 | 75 | 0.157 | 78 | 70-135 | 4 | 35 | mg/kg | 02.12.18 09:08 | |
| o-Xylene | <0.00201 | 0.100 | 0.0756 | 76 | 0.0786 | 78 | 71-133 | 4 | 35 | mg/kg | 02.12.18 09:08 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 89 | | 82 | | 80-120 | % | 02.12.18 09:08 |
| 4-Bromofluorobenzene | 96 | | 112 | | 80-120 | % | 02.12.18 09:08 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3040912 Matrix: Soil Date Prep: 02.13.18
Parent Sample Id: 576101-001 MS Sample Id: 576101-001 S MSD Sample Id: 576101-001 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 | 0.0829 | 83 | 0.0930 | 92 | 70-130 | 11 | 35 | mg/kg | 02.13.18 12:41 | |
| Toluene | 0.00203 | 0.0994 | 0.0440 | 42 | 0.0441 | 42 | 70-130 | 0 | 35 | mg/kg | 02.13.18 12:41 | X |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0437 | 44 | 0.0367 | 36 | 71-129 | 17 | 35 | mg/kg | 02.13.18 12:41 | X |
| m,p-Xylenes | <0.00398 | 0.199 | 0.0860 | 43 | 0.0666 | 33 | 70-135 | 25 | 35 | mg/kg | 02.13.18 12:41 | X |
| o-Xylene | <0.00199 | 0.0994 | 0.0430 | 43 | 0.0329 | 33 | 71-133 | 27 | 35 | mg/kg | 02.13.18 12:41 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 83 | | 83 | | 80-120 | % | 02.13.18 12:41 |
| 4-Bromofluorobenzene | 81 | | 80 | | 80-120 | % | 02.13.18 12:41 |

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

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

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

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

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# CHAIN OF CUSTODY

Page 1 Of 2

Revision 2016.1

XENCO LABORATORIES

*Setting the Standard since 1990*

Stafford, TX (281) 240-4200 | El Paso, TX (915) 585-3443 | Midland, TX (432) 704-5440 | Phoenix, AZ (480) 355-0900 | Service Center- Amarillo, TX (806)678-4514
Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550

www.xenco.com

Xenco Quote #: | Xenco Job #: ~~575588~~ 575584

**Client / Reporting Information**

Company Name / Branch: LT Environmental / Permian
Company Address: 3300 N. A Street Bldg 1 suite 103
Email: Abaker@LTenv.com | Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

**Project Information**

Project Name/Number: Well #127 / 30-015-43231
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30 015 43231

**Analytical Information**

BTEX method 8021
TPH Method 8015
chloride 300.1

**Matrix Codes**

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

| No. | Field ID / Point of Collection | Collection: Sample Depth | Date | Time | Matrix | # of bottles | Number of preserved bottles: HO | NaOH/Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MEOH | NONE | Field Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SS1 | 6" | 2/5/18 | 15:00 | S | 1 | | | | | | | | | |
| 2 | SS2 | 6" | 2/5/18 | 15:03 | S | 1 | | | | | | | | | |
| 3 | SS3 | 6" | 2/5/18 | 15:06 | S | 1 | | | | | | | | | |
| 4 | SS4 | 6" | 2/5/18 | 15:09 | S | 1 | | | | | | | | | |
| 5 | SS5 | 6" | 2/5/18 | 15:12 | S | 1 | | | | | | | | | |
| 6 | SS6 | 6" | 2/5/18 | 15:15 | S | 1 | | | | | | | | | |
| 7 | SS7 | 6" | 2/5/18 | 15:18 | S | 1 | | | | | | | | | |
| 8 | SS8 | 6" | 2/5/18 | 15:21 | S | 1 | | | | | | | | | |
| 9 | SS9 | 6" | 2/5/18 | 15:24 | S | 1 | | | | | | | | | |
| 10 | SS10 | 6" | 2/5/18 | 15:27 | S | 1 | | | | | | | | | |

**Turnaround Time ( Business days)**

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY — Standard TAT

TAT Starts Day received by Lab, if received by 5:00 pm

**Data Deliverable Information**

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

**Notes:**

JRU DI IA

Temp: 4
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 3.8

IR ID:R-8

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 2/6/18 17:45 | | 2 | 2/7/18 8:00 AM | 2 |
| 3 | Relinquished by: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Preserved where applicable | On Ice / Cooler Temp. / Thermo. Corr. Factor |

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 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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# CHAIN OF CUSTODY

Page 2 of 2

Revision 2016.1

XENCO LABORATORIES

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www.xenco.com

Xenco Quote #: | Xenco Job #: ~~575558~~ 575589

**Client / Reporting Information**

Company Name / Branch: LT Environmental/Permian
Company Address: 3300 N. A Street Bldg 1 Suite 103
Email: ABaker@LTenv.com Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

**Project Information**

Project Name/Number: Well #127 /30-015-43231
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30 015 43231

**Analytical Information**

Brex Meth 8021
TPH Meth 8015
Chlorides 300.1

**Matrix Codes**

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

| No. | Field ID / Point of Collection | Collection: Sample Depth | Collection: Date | Collection: Time | Matrix | # of bottles | Number of preserved bottles: ICE | NaOH/Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MEOH | None | Field Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SS11 | 6" | 7/5/18 | 15:30 | S | 1 | | | | | | | | | |
| 2 | SS12 | 6" | 7/5/18 | 15:33 | S | 1 | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | NFE ARN | | | | | | | | | | | | | | |

**Turnaround Time ( Business days)**

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
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- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

**Notes:**

JRU 01 1A

Temp: 4
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 3.8

IR ID:R-8

FI

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 7/6/18 17:45 | 1 | 2 | 7/7/18 8:00 am | 2 |
| 3 | Relinquished by: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 6 | Custody Seal # | Preserved where applicable | On Ice ✓ Cooler Temp. Thermo. Corr. Factor |

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 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 02/07/2018 08:00:00 AM

**Work Order #:** 575589

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

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 3.8 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **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:** Connie Hernandez Date: 02/07/2018

**Checklist reviewed by:** Jessica Kramer Date: 02/07/2018

Jessica Kramer

# Certificate of Analysis Summary 581764

## LT Environmental, Inc., Arvada, CO

## Project Name: Well 127

**Project Id:** 30-015-43231
**Contact:** Adrian Baker
**Project Location:** NM

**Date Received in Lab:** Mon Apr-09-18 08:51 am
**Report Date:** 12-APR-18
**Project Manager:** Jessica Kramer

| Analysis Requested | | 581764-001 | | 581764-002 | | 581764-003 | | 581764-004 | | 581764-005 | | 581764-006 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Field Id: | SS 01 | | SS 02 | | SS 03 | | SS 04 | | SS 05 | | SS 06 | |
| | Depth: | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | |
| | Matrix: | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | Sampled: | Apr-06-18 14:22 | | Apr-06-18 14:25 | | Apr-06-18 14:26 | | Apr-06-18 14:28 | | Apr-06-18 14:29 | | Apr-06-18 14:30 | |
| **BTEX by EPA 8021B** | Extracted: | Apr-10-18 08:00 | | Apr-10-18 08:00 | | Apr-10-18 08:00 | | Apr-10-18 08:00 | | Apr-10-18 16:45 | | Apr-10-18 16:45 | |
| | Analyzed: | Apr-10-18 16:51 | | Apr-10-18 17:11 | | Apr-10-18 17:30 | | Apr-10-18 17:50 | | Apr-10-18 22:00 | | Apr-10-18 22:19 | |
| | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Toluene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00403 | 0.00403 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00401 | 0.00401 | <0.00402 | 0.00402 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00199 | 0.00199 |
| **Chloride by EPA 300** | Extracted: | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | |
| | Analyzed: | Apr-10-18 18:05 | | Apr-10-18 18:10 | | Apr-10-18 18:15 | | Apr-10-18 18:21 | | Apr-10-18 18:42 | | Apr-10-18 18:47 | |
| | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 584 | 24.9 | 7280 | 99.8 | 2330 | 24.9 | 4390 | 50.0 | 1920 | 25.0 | 1590 | 24.9 |
| **TPH By SW8015 Mod** | Extracted: | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | |
| | Analyzed: | Apr-10-18 08:53 | | Apr-10-18 09:20 | | Apr-10-18 09:47 | | Apr-10-18 10:14 | | Apr-10-18 11:37 | | Apr-10-18 12:05 | |
| | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Oil Range Hydrocarbons (ORO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 581764

## LT Environmental, Inc., Arvada, CO

## Project Name: Well 127

**Project Id:** 30-015-43231
**Contact:** Adrian Baker
**Project Location:** NM

**Date Received in Lab:** Mon Apr-09-18 08:51 am
**Report Date:** 12-APR-18
**Project Manager:** Jessica Kramer

| Analysis Requested | | Lab Id: | 581764-007 | | 581764-008 | | 581764-009 | | 581764-010 | | 581764-011 | | 581764-012 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Field Id: | SS 07 | | SS 08 | | SS 09 | | SS 010 | | SS 011 | | SS 012 | |
| | | Depth: | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | | 0-5 ft | |
| | | Matrix: | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | | Sampled: | Apr-06-18 14:32 | | Apr-06-18 14:33 | | Apr-06-18 14:35 | | Apr-06-18 14:36 | | Apr-06-18 14:37 | | Apr-06-18 14:39 | |
| **BTEX by EPA 8021B** | | Extracted: | Apr-10-18 16:45 | | Apr-10-18 16:45 | | Apr-10-18 16:45 | | Apr-10-18 16:45 | | Apr-10-18 16:45 | | Apr-10-18 16:45 | |
| | | Analyzed: | Apr-10-18 22:37 | | Apr-10-18 22:56 | | Apr-10-18 23:16 | | Apr-10-18 23:35 | | Apr-10-18 23:54 | | Apr-11-18 00:13 | |
| | | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00201 | 0.00201 |
| Toluene | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | 0.00241 | 0.00198 | <0.00201 | 0.00201 |
| Ethylbenzene | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | 0.0142 | 0.00198 | <0.00201 | 0.00201 |
| m,p-Xylenes | | | <0.00399 | 0.00399 | <0.00403 | 0.00403 | <0.00401 | 0.00401 | <0.00398 | 0.00398 | <0.00396 | 0.00396 | <0.00402 | 0.00402 |
| o-Xylene | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00201 | 0.00201 |
| Total Xylenes | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00201 | 0.00201 |
| Total BTEX | | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | 0.0166 | 0.00198 | <0.00201 | 0.00201 |
| **Chloride by EPA 300** | | Extracted: | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | | Apr-10-18 11:30 | |
| | | Analyzed: | Apr-10-18 19:03 | | Apr-10-18 19:08 | | Apr-10-18 19:14 | | Apr-10-18 18:26 | | Apr-10-18 19:19 | | Apr-10-18 19:24 | |
| | | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | | 3680 | 25.0 | 2680 | 24.9 | 4630 | 49.8 | 6.17 | 5.00 | 1640 | 24.9 | 88.3 | 5.00 |
| **TPH By SW8015 Mod** | | Extracted: | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | | Apr-09-18 15:00 | |
| | | Analyzed: | Apr-10-18 12:33 | | Apr-10-18 13:02 | | Apr-10-18 13:30 | | Apr-10-18 13:59 | | Apr-10-18 14:28 | | Apr-10-18 14:57 | |
| | | Units/RL: | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Oil Range Hydrocarbons (ORO) | | | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 |

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Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 581764

## LT Environmental, Inc., Arvada, CO

## Project Name: Well 127

**Project Id:** 30-015-43231
**Contact:** Adrian Baker
**Project Location:** NM

**Date Received in Lab:** Mon Apr-09-18 08:51 am
**Report Date:** 12-APR-18
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 581764-013 | | | | | |
| | ***Field Id:*** | SS 013 | | | | | |
| | ***Depth:*** | 0-5 ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | Apr-06-18 14:40 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Apr-10-18 16:45 | | | | | |
| | ***Analyzed:*** | Apr-11-18 00:32 | | | | | |
| | ***Units/RL:*** | mg/kg RL | | | | | |
| Benzene | | <0.00202 0.00202 | | | | | |
| Toluene | | <0.00202 0.00202 | | | | | |
| Ethylbenzene | | <0.00202 0.00202 | | | | | |
| m,p-Xylenes | | <0.00404 0.00404 | | | | | |
| o-Xylene | | <0.00202 0.00202 | | | | | |
| Total Xylenes | | <0.00202 0.00202 | | | | | |
| Total BTEX | | <0.00202 0.00202 | | | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Apr-10-18 11:30 | | | | | |
| | ***Analyzed:*** | Apr-10-18 19:30 | | | | | |
| | ***Units/RL:*** | mg/kg RL | | | | | |
| Chloride | | 995 4.98 | | | | | |
| **TPH By SW8015 Mod** | ***Extracted:*** | Apr-09-18 15:00 | | | | | |
| | ***Analyzed:*** | Apr-10-18 15:26 | | | | | |
| | ***Units/RL:*** | mg/kg RL | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 15.0 | | | | | |
| Diesel Range Organics (DRO) | | <15.0 15.0 | | | | | |
| Oil Range Hydrocarbons (ORO) | | <15.0 15.0 | | | | | |
| Total TPH | | <15.0 15.0 | | | | | |

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Version: 1.%

Jessica Kramer
Project Assistant

# Analytical Report 581764

## for

## LT Environmental, Inc.

**Project Manager: Adrian Baker**

**Well 127**

**30-015-43231**

**12-APR-18**

Collected By: Client





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

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

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

12-APR-18

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

Reference: XENCO Report No(s): **581764**
**Well 127**
Project Address: NM

**Adrian Baker**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 581764. 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. 581764 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 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS 01 | S | 04-06-18 14:22 | 0 - 5 ft | 581764-001 |
| SS 02 | S | 04-06-18 14:25 | 0 - 5 ft | 581764-002 |
| SS 03 | S | 04-06-18 14:26 | 0 - 5 ft | 581764-003 |
| SS 04 | S | 04-06-18 14:28 | 0 - 5 ft | 581764-004 |
| SS 05 | S | 04-06-18 14:29 | 0 - 5 ft | 581764-005 |
| SS 06 | S | 04-06-18 14:30 | 0 - 5 ft | 581764-006 |
| SS 07 | S | 04-06-18 14:32 | 0 - 5 ft | 581764-007 |
| SS 08 | S | 04-06-18 14:33 | 0 - 5 ft | 581764-008 |
| SS 09 | S | 04-06-18 14:35 | 0 - 5 ft | 581764-009 |
| SS 010 | S | 04-06-18 14:36 | 0 - 5 ft | 581764-010 |
| SS 011 | S | 04-06-18 14:37 | 0 - 5 ft | 581764-011 |
| SS 012 | S | 04-06-18 14:39 | 0 - 5 ft | 581764-012 |
| SS 013 | S | 04-06-18 14:40 | 0 - 5 ft | 581764-013 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: Well 127***

Project ID: *30-015-43231*
Work Order Number(s): *581764*

Report Date: *12-APR-18*
Date Received: *04/09/2018*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3046232 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3046284 Inorganic Anions by EPA 300
Lab Sample ID 581764-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 581764-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3046285 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 01** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-001 | Date Collected: | 04.06.18 14.22 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **584** | 24.9 | mg/kg | 04.10.18 18.05 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 08.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 08.53 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 08.53 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 08.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 04.10.18 08.53 | |
| o-Terphenyl | 84-15-1 | 101 | % | 70-135 | 04.10.18 08.53 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 01** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-001 | Date Collected: | 04.06.18 14.22 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 08.00 | Basis: | Wet Weight |
| Seq Number: | 3046232 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 04.10.18 16.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.10.18 16.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 04.10.18 16.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 04.10.18 16.51 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 02** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-002 | Date Collected: | 04.06.18 14.25 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **7280** | 99.8 | mg/kg | 04.10.18 18.10 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 09.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 09.20 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 09.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 09.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 04.10.18 09.20 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.10.18 09.20 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 02** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-002 | Date Collected: | 04.06.18 14.25 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 08.00 | Basis: | Wet Weight |
| Seq Number: | 3046232 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.10.18 17.11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.10.18 17.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 04.10.18 17.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 04.10.18 17.11 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 03** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-003 | Date Collected: | 04.06.18 14.26 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2330** | 24.9 | mg/kg | 04.10.18 18.15 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 09.47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 09.47 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 09.47 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 09.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 04.10.18 09.47 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 04.10.18 09.47 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 03** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-003 | Date Collected: | 04.06.18 14.26 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 08.00 | Basis: | Wet Weight |
| Seq Number: | 3046232 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.10.18 17.30 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 04.10.18 17.30 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.10.18 17.30 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 04** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-004 | Date Collected: | 04.06.18 14.28 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **4390** | 50.0 | mg/kg | 04.10.18 18.21 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 10.14 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 10.14 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 10.14 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 10.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 04.10.18 10.14 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.10.18 10.14 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 04** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-004 | Date Collected: | 04.06.18 14.28 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 08.00 | Basis: | Wet Weight |
| Seq Number: | 3046232 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.10.18 17.50 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.10.18 17.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 04.10.18 17.50 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 04.10.18 17.50 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 05** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-005 | Date Collected: | 04.06.18 14.29 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1920** | 25.0 | mg/kg | 04.10.18 18.42 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 11.37 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 11.37 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 11.37 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 11.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 04.10.18 11.37 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.10.18 11.37 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 05** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-005 | Date Collected: | 04.06.18 14.29 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.10.18 22.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.10.18 22.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 04.10.18 22.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 92 | % | 70-130 | 04.10.18 22.00 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 06** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-006 | Date Collected: | 04.06.18 14.30 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1590** | 24.9 | mg/kg | 04.10.18 18.47 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 12.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 12.05 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 12.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 12.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 04.10.18 12.05 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 04.10.18 12.05 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 06** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-006 | Date Collected: | 04.06.18 14.30 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.10.18 22.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.10.18 22.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 93 | % | 70-130 | 04.10.18 22.19 | |
| 4-Bromofluorobenzene | 460-00-4 | 89 | % | 70-130 | 04.10.18 22.19 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 07** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-007 | Date Collected: | 04.06.18 14.32 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **3680** | 25.0 | mg/kg | 04.10.18 19.03 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 04.10.18 12.33 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 04.10.18 12.33 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 04.10.18 12.33 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 04.10.18 12.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 04.10.18 12.33 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.10.18 12.33 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 07** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-007 | Date Collected: | 04.06.18 14.32 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.10.18 22.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.10.18 22.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 04.10.18 22.37 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.10.18 22.37 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 08** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-008 | Date Collected: | 04.06.18 14.33 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2680** | 24.9 | mg/kg | 04.10.18 19.08 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 13.02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 13.02 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 13.02 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 13.02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 04.10.18 13.02 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 04.10.18 13.02 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 08** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-008 | Date Collected: | 04.06.18 14.33 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 04.10.18 22.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.10.18 22.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 04.10.18 22.56 | |
| 1,4-Difluorobenzene | 540-36-3 | 94 | % | 70-130 | 04.10.18 22.56 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 09** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-009 | Date Collected: | 04.06.18 14.35 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **4630** | 49.8 | mg/kg | 04.10.18 19.14 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 13.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 13.30 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 13.30 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 13.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 04.10.18 13.30 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.10.18 13.30 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 09** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-009 | Date Collected: | 04.06.18 14.35 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.10.18 23.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.10.18 23.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 04.10.18 23.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 04.10.18 23.16 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 010** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-010 | Date Collected: | 04.06.18 14.36 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6.17** | 5.00 | mg/kg | 04.10.18 18.26 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 04.10.18 13.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 04.10.18 13.59 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 04.10.18 13.59 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 04.10.18 13.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 04.10.18 13.59 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 04.10.18 13.59 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 010** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-010 | Date Collected: | 04.06.18 14.36 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.10.18 23.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.10.18 23.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 04.10.18 23.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 04.10.18 23.35 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 011** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-011 | Date Collected: | 04.06.18 14.37 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1640** | 24.9 | mg/kg | 04.10.18 19.19 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 14.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 14.28 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 14.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 14.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 04.10.18 14.28 | |
| o-Terphenyl | 84-15-1 | 91 | % | 70-135 | 04.10.18 14.28 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 011** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-011 | Date Collected: | 04.06.18 14.37 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.10.18 23.54 | U | 1 |
| **Toluene** | 108-88-3 | **0.00241** | 0.00198 | mg/kg | 04.10.18 23.54 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0142** | 0.00198 | mg/kg | 04.10.18 23.54 | | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 04.10.18 23.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.10.18 23.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.10.18 23.54 | U | 1 |
| **Total BTEX** | | **0.0166** | 0.00198 | mg/kg | 04.10.18 23.54 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 04.10.18 23.54 | |
| 1,4-Difluorobenzene | 540-36-3 | 93 | % | 70-130 | 04.10.18 23.54 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 012** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-012 | Date Collected: | 04.06.18 14.39 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **88.3** | 5.00 | mg/kg | 04.10.18 19.24 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 14.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 14.57 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 14.57 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 14.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 04.10.18 14.57 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 04.10.18 14.57 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 012** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-012 | Date Collected: | 04.06.18 14.39 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 04.11.18 00.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 04.11.18 00.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.11.18 00.13 | |
| 1,4-Difluorobenzene | 540-36-3 | 95 | % | 70-130 | 04.11.18 00.13 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 013** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-013 | Date Collected: | 04.06.18 14.40 | Sample Depth: | 0 - 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SCM | | | % Moisture: | |
| Analyst: | SCM | Date Prep: | 04.10.18 11.30 | Basis: | Wet Weight |
| Seq Number: | 3046284 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **995** | 4.98 | mg/kg | 04.10.18 19.30 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH By SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 04.09.18 15.00 | Basis: | Wet Weight |
| Seq Number: | 3046309 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 04.10.18 15.26 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 04.10.18 15.26 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 04.10.18 15.26 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 04.10.18 15.26 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 04.10.18 15.26 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 04.10.18 15.26 | |

# Certificate of Analytical Results 581764

## LT Environmental, Inc., Arvada, CO

Well 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS 013** | Matrix: | Soil | Date Received: | 04.09.18 08.51 |
| Lab Sample Id: | 581764-013 | Date Collected: | 04.06.18 14.40 | Sample Depth: | 0 - 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALJ | | | % Moisture: | |
| Analyst: | ALJ | Date Prep: | 04.10.18 16.45 | Basis: | Wet Weight |
| Seq Number: | 3046285 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 04.11.18 00.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.11.18 00.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 04.11.18 00.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 90 | % | 70-130 | 04.11.18 00.32 | |

# 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 581764



## LT Environmental, Inc.

Well 127

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3046284 — Matrix: Solid — Date Prep: 04.10.18
MB Sample Id: 7642341-1-BLK — LCS Sample Id: 7642341-1-BKS — LCSD Sample Id: 7642341-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 244 | 98 | 243 | 97 | 90-110 | 0 | 20 | mg/kg | 04.10.18 16:53 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3046284 — Matrix: Soil — Date Prep: 04.10.18
Parent Sample Id: 581763-001 — MS Sample Id: 581763-001 S — MSD Sample Id: 581763-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12.8 | 250 | 262 | 100 | 262 | 100 | 90-110 | 0 | 20 | mg/kg | 04.10.18 17:09 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3046284 — Matrix: Soil — Date Prep: 04.10.18
Parent Sample Id: 581764-010 — MS Sample Id: 581764-010 S — MSD Sample Id: 581764-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 6.17 | 250 | 224 | 87 | 217 | 84 | 90-110 | 3 | 20 | mg/kg | 04.10.18 18:31 | X |

**Analytical Method:** TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3046309 — Matrix: Solid — Date Prep: 04.09.18
MB Sample Id: 7642334-1-BLK — LCS Sample Id: 7642334-1-BKS — LCSD Sample Id: 7642334-1-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 | 1060 | 106 | 1050 | 105 | 70-135 | 1 | 20 | mg/kg | 04.10.18 04:25 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 1090 | 109 | 1080 | 108 | 70-135 | 1 | 20 | mg/kg | 04.10.18 04:25 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 116 | | 114 | | 70-135 | % | 04.10.18 04:25 |
| o-Terphenyl | 105 | | 117 | | 112 | | 70-135 | % | 04.10.18 04:25 |

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

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

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

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

# QC Summary 581764



## LT Environmental, Inc.

Well 127

**Analytical Method:** TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3046309 — Matrix: Soil — Date Prep: 04.09.18
Parent Sample Id: 581763-001 — MS Sample Id: 581763-001 S — MSD Sample Id: 581763-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 967 | 97 | 975 | 98 | 70-135 | 1 | 20 | mg/kg | 04.10.18 05:46 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 1040 | 104 | 1030 | 103 | 70-135 | 1 | 20 | mg/kg | 04.10.18 05:46 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 108 | | 110 | | 70-135 | % | 04.10.18 05:46 |
| o-Terphenyl | 107 | | 103 | | 70-135 | % | 04.10.18 05:46 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3046232 — Matrix: Solid — Date Prep: 04.10.18
MB Sample Id: 7642361-1-BLK — LCS Sample Id: 7642361-1-BKS — LCSD Sample Id: 7642361-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0990 | 0.118 | 119 | 0.116 | 117 | 70-130 | 2 | 35 | mg/kg | 04.10.18 08:10 | |
| Toluene | <0.00198 | 0.0990 | 0.115 | 116 | 0.111 | 112 | 70-130 | 4 | 35 | mg/kg | 04.10.18 08:10 | |
| Ethylbenzene | <0.00198 | 0.0990 | 0.115 | 116 | 0.112 | 113 | 70-130 | 3 | 35 | mg/kg | 04.10.18 08:10 | |
| m,p-Xylenes | <0.00396 | 0.198 | 0.240 | 121 | 0.230 | 116 | 70-130 | 4 | 35 | mg/kg | 04.10.18 08:10 | |
| o-Xylene | <0.00198 | 0.0990 | 0.119 | 120 | 0.115 | 116 | 70-130 | 3 | 35 | mg/kg | 04.10.18 08:10 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 84 | | 102 | | 94 | | 70-130 | % | 04.10.18 08:10 |
| 4-Bromofluorobenzene | 81 | | 106 | | 102 | | 70-130 | % | 04.10.18 08:10 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3046285 — Matrix: Solid — Date Prep: 04.10.18
MB Sample Id: 7642387-1-BLK — LCS Sample Id: 7642387-1-BKS — LCSD Sample Id: 7642387-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0996 | 0.103 | 103 | 0.107 | 107 | 70-130 | 4 | 35 | mg/kg | 04.10.18 19:45 | |
| Toluene | <0.00199 | 0.0996 | 0.101 | 101 | 0.103 | 103 | 70-130 | 2 | 35 | mg/kg | 04.10.18 19:45 | |
| Ethylbenzene | <0.00199 | 0.0996 | 0.101 | 101 | 0.104 | 104 | 70-130 | 3 | 35 | mg/kg | 04.10.18 19:45 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.213 | 107 | 0.217 | 109 | 70-130 | 2 | 35 | mg/kg | 04.10.18 19:45 | |
| o-Xylene | <0.00199 | 0.0996 | 0.106 | 106 | 0.109 | 109 | 70-130 | 3 | 35 | mg/kg | 04.10.18 19:45 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 93 | | 89 | | 96 | | 70-130 | % | 04.10.18 19:45 |
| 4-Bromofluorobenzene | 80 | | 82 | | 89 | | 70-130 | % | 04.10.18 19:45 |

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

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

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

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

# QC Summary 581764

## LT Environmental, Inc.

Well 127

**Analytical Method:** BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3046232
Matrix: Soil
Date Prep: 04.10.18
Parent Sample Id: 581763-004
MS Sample Id: 581763-004 S
MSD Sample Id: 581763-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.0887 | 89 | 0.107 | 106 | 70-130 | 19 | 35 | mg/kg | 04.10.18 08:49 | |
| Toluene | <0.00200 | 0.100 | 0.0819 | 82 | 0.101 | 100 | 70-130 | 21 | 35 | mg/kg | 04.10.18 08:49 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0764 | 76 | 0.100 | 99 | 70-130 | 27 | 35 | mg/kg | 04.10.18 08:49 | |
| m,p-Xylenes | <0.00401 | 0.200 | 0.157 | 79 | 0.205 | 101 | 70-130 | 27 | 35 | mg/kg | 04.10.18 08:49 | |
| o-Xylene | <0.00200 | 0.100 | 0.0787 | 79 | 0.103 | 102 | 70-130 | 27 | 35 | mg/kg | 04.10.18 08:49 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 108 | | 70-130 | % | 04.10.18 08:49 |
| 4-Bromofluorobenzene | 111 | | 111 | | 70-130 | % | 04.10.18 08:49 |

**Analytical Method:** BTEX by EPA 8021B
Prep Method: SW5030B
Seq Number: 3046285
Matrix: Soil
Date Prep: 04.10.18
Parent Sample Id: 581764-005
MS Sample Id: 581764-005 S
MSD Sample Id: 581764-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0994 | 0.0910 | 92 | 0.105 | 105 | 70-130 | 14 | 35 | mg/kg | 04.10.18 20:24 | |
| Toluene | <0.00199 | 0.0994 | 0.0870 | 88 | 0.100 | 100 | 70-130 | 14 | 35 | mg/kg | 04.10.18 20:24 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0850 | 86 | 0.0999 | 100 | 70-130 | 16 | 35 | mg/kg | 04.10.18 20:24 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.176 | 88 | 0.205 | 103 | 70-130 | 15 | 35 | mg/kg | 04.10.18 20:24 | |
| o-Xylene | <0.00199 | 0.0994 | 0.0886 | 89 | 0.103 | 103 | 70-130 | 15 | 35 | mg/kg | 04.10.18 20:24 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 104 | | 70-130 | % | 04.10.18 20:24 |
| 4-Bromofluorobenzene | 102 | | 110 | | 70-130 | % | 04.10.18 20:24 |

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

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

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

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

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# CHAIN OF CUSTODY

Page 1 Of 2

2RP- 4625

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Xenco Quote # | Xenco Job # 581764

**Client / Reporting Information**

Company Name / Branch: LTE / Permian
Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705
Email: Abaker@ltenv.com | Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

**Project Information**

Project Name/Number: Dell 127 / 30-015-43231
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-43231

**Analytical Information**

Blex EPA Method 8021 | TPH EPA Method 8015 | Chloride EPA Method 300.1

**Matrix Codes**

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

| No. | Field ID / Point of Collection | Collection: Sample Depth | Date | Time | Matrix | # of bottles | Number of preserved bottles: HCl | NaOH+Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MEOH | NONE | Blex EPA Method 8021 | TPH EPA Method 8015 | Chloride EPA Method 300.1 | Field Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SS01 | 0.5' | 4-6-18 | 14:22 | S | 1 | | | | | | | | | X | X | X | |
| 2 | SS02 | | | 14:25 | | | | | | | | | | | X | X | X | |
| 3 | SS03 | | | 14:26 | | | | | | | | | | | X | X | X | |
| 4 | SS04 | | | 14:28 | | | | | | | | | | | X | X | X | |
| 5 | SS05 | | | 14:29 | | | | | | | | | | | X | X | X | |
| 6 | SS06 | | | 14:30 | | | | | | | | | | | X | X | X | |
| 7 | SS07 | | | 14:32 | | | | | | | | | | | X | X | X | |
| 8 | SS08 | | | 14:33 | | | | | | | | | | | X | X | X | |
| 9 | SS09 | | | 14:35 | | | | | | | | | | | X | X | X | |
| 10 | SS10 | | | 14:36 | | | | | | | | | | | X | X | X | |

**Turnaround Time ( Business days)**

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] STANDARD TAT

TAT Starts Day received by Lab, if received by 5:00 pm

**Data Deliverable Information**

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

**Notes:**

Temp: 7.5 IR ID:R-8
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 7.5

FED-EX /

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-9-18 8:17 | | 2 | | 2 |
| 3 | Relinquished by: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| | | | 3 | 4 | | 4 |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Preserved where applicable | On Ice / Cooler Temp. / Thermo. Corr. Factor |
| | | | 5 | | | x |

Notice: 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 loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
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Phoenix, Arizona (480-355-0900)

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# CHAIN OF CUSTODY

Page 2 of 2

2RP-4625

Xenco Quote #

Xenco Job # 581764

## Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

## Project Information

Project Name/Number: Well 127 / 30-015-43231

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-43231

## Analytical Information

| No. | Field ID / Point of Collection | Collection: Sample Depth | Collection: Date | Collection: Time | Matrix | # of bottles | Number of preserved bottles: HCl | NaOH+Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MEOH | NONE | Btex EPA Method 8021 | TPH EPA Method 8015 | Chloride EPA Method 300.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5511 | 0.5' | 4-4-18 | 14:37 | S | 1 | | | | | | | | | X | X | X |
| 2 | 5512 | ↓ | ↓ | 14:39 | ↓ | ↓ | | | | | | | | | X | X | X |
| 3 | 5513 | ↓ | ↓ | 14:40 | ↓ | ↓ | | | | | | | | | X | X | X |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

## Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

Field Comments

## Turnaround Time ( Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] STANDARD TAT

TAT Starts Day received by Lab, if received by 5:00 pm

## Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 7.3 IR ID:R-8

CF:(0-6: -0.2°C )

(6-23: +0.2°C)

Corrected Temp: 7.5

FED-EX /

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-4-18 0:01 | | 2 | | 2 |
| 3 | Relinquished by: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Preserved where applicable | On Ice: x |

Cooler Temp. Thermo. Corr. Factor

Notice: 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 loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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Final 1.000

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 04/09/2018 08:51:00 AM

**Work Order #:** 581764

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

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 7.5 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6*Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **N/A** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Brianna Teel Date: 04/09/2018

Brianna Teel

**Checklist reviewed by:** Jessica Kramer Date: 04/09/2018

Jessica Kramer

# Analytical Report 626933

## for

## LT Environmental, Inc.

**Project Manager: Ashley Ager**

**JRU DI #1 127H**

**12-JUN-19**

Collected By: Client

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

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

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

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

12-JUN-19

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

Reference: XENCO Report No(s): **626933**
**JRU DI #1 127H**
Project Address: Delaware Basin

**Ashley Ager**:

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) 626933. 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. 626933 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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# Sample Cross Reference 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS01 | S | 06-03-19 16:00 | 0.5 | 626933-001 |
| SS02 | S | 06-03-19 16:05 | 0.5 | 626933-002 |
| SS03 | S | 06-03-19 16:10 | 0.5 | 626933-003 |
| SS04 | S | 06-03-19 16:15 | 0.5 | 626933-004 |
| SS05 | S | 06-03-19 16:20 | 0.5 | 626933-005 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI #1 127H***

Project ID:
Work Order Number(s): *626933*

Report Date: *12-JUN-19*
Date Received: *06/07/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3091974 BTEX by EPA 8021
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 626931-010 S,626933-005.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 626933

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #1 127H

**Project Id:**
**Contact:** Ashley Ager
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jun-07-19 11:40 am
**Report Date:** 12-JUN-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 626933-001 | | 626933-002 | | 626933-003 | | 626933-004 | | 626933-005 | |
| | *Field Id:* | SS01 | | SS02 | | SS03 | | SS04 | | SS05 | |
| | *Depth:* | 0.5- | | 0.5- | | 0.5- | | 0.5- | | 0.5- | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Jun-03-19 16:00 | | Jun-03-19 16:05 | | Jun-03-19 16:10 | | Jun-03-19 16:15 | | Jun-03-19 16:20 | |
| **BTEX by EPA 8021** | *Extracted:* | Jun-11-19 08:30 | | Jun-11-19 08:30 | | Jun-11-19 08:30 | | Jun-11-19 08:30 | | Jun-11-19 08:30 | |
| | *Analyzed:* | Jun-11-19 23:32 | | Jun-11-19 23:51 | | Jun-12-19 00:10 | | Jun-12-19 00:29 | | Jun-12-19 00:48 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00397 | 0.00397 | <0.00401 | 0.00401 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | 0.00202 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | 0.00202 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | 0.00202 | 0.00200 |
| **Chloride by EPA 300** | *Extracted:* | Jun-08-19 14:00 | | Jun-08-19 14:00 | | Jun-08-19 14:00 | | Jun-08-19 14:00 | | Jun-08-19 14:00 | |
| | *Analyzed:* | Jun-08-19 16:15 | | Jun-08-19 16:23 | | Jun-08-19 16:30 | | Jun-08-19 16:37 | | Jun-08-19 16:44 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 73.6 | 5.05 | 122 | 5.00 | 129 | 5.03 | 316 | 25.0 | 396 | 4.97 |
| **TPH by SW8015 Mod** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | Jun-07-19 16:00 | |
| | *Analyzed:* | Jun-07-19 22:10 | | Jun-07-19 22:36 | | Jun-07-19 23:01 | | Jun-07-19 23:26 | | Jun-08-19 01:31 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | 29.3 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | 29.3 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | 29.3 | 15.0 | <15.0 | 15.0 |

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



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-001 | Date Collected: | 06.03.19 16.00 | Sample Depth: | 0.5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 06.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3091691 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **73.6** | 5.05 | mg/kg | 06.08.19 16.15 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 06.07.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3091703 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.07.19 22.10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 06.07.19 22.10 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.07.19 22.10 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 06.07.19 22.10 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 06.07.19 22.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 128 | % | 70-135 | 06.07.19 22.10 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 06.07.19 22.10 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS01** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-001 | Date Collected: | 06.03.19 16.00 | Sample Depth: | 0.5 |
| Analytical Method: | BTEX by EPA 8021 | | | Prep Method: | SW5030B |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 06.11.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3091974 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 06.11.19 23.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 06.11.19 23.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 06.11.19 23.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 79 | % | 70-130 | 06.11.19 23.32 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-002 | Date Collected: | 06.03.19 16.05 | Sample Depth: | 0.5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 06.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3091691 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **122** | 5.00 | mg/kg | 06.08.19 16.23 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 06.07.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3091703 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.07.19 22.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 06.07.19 22.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.07.19 22.36 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 06.07.19 22.36 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 06.07.19 22.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 06.07.19 22.36 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 06.07.19 22.36 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS02** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-002 | Date Collected: | 06.03.19 16.05 | Sample Depth: | 0.5 |
| Analytical Method: | BTEX by EPA 8021 | | | Prep Method: | SW5030B |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 06.11.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3091974 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 06.11.19 23.51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 06.11.19 23.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 78 | % | 70-130 | 06.11.19 23.51 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 06.11.19 23.51 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS03** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-003 | Date Collected: | 06.03.19 16.10 | Sample Depth: | 0.5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 06.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3091691 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **129** | 5.03 | mg/kg | 06.08.19 16.30 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 06.07.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3091703 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.07.19 23.01 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 06.07.19 23.01 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.07.19 23.01 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 06.07.19 23.01 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 06.07.19 23.01 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 06.07.19 23.01 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 06.07.19 23.01 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS03** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-003 | Date Collected: | 06.03.19 16.10 | Sample Depth: | 0.5 |
| Analytical Method: | BTEX by EPA 8021 | | | Prep Method: | SW5030B |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 06.11.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3091974 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 06.12.19 00.10 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 06.12.19 00.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 06.12.19 00.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 90 | % | 70-130 | 06.12.19 00.10 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-004 | Date Collected: | 06.03.19 16.15 | Sample Depth: | 0.5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 06.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3091691 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **316** | 25.0 | mg/kg | 06.08.19 16.37 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 06.07.19 11.00 | Basis: | Wet Weight |
| Seq Number: | 3091703 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.07.19 23.26 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **29.3** | 15.0 | mg/kg | 06.07.19 23.26 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.07.19 23.26 | U | 1 |
| **Total TPH** | PHC635 | **29.3** | 15.0 | mg/kg | 06.07.19 23.26 | | 1 |
| **Total GRO-DRO** | PHC628 | **29.3** | 15.0 | mg/kg | 06.07.19 23.26 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 06.07.19 23.26 | |
| o-Terphenyl | 84-15-1 | 85 | % | 70-135 | 06.07.19 23.26 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS04** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-004 | Date Collected: | 06.03.19 16.15 | Sample Depth: | 0.5 |
| Analytical Method: | BTEX by EPA 8021 | | | Prep Method: | SW5030B |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 06.11.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3091974 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 06.12.19 00.29 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.29 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 06.12.19 00.29 | |
| 4-Bromofluorobenzene | 460-00-4 | 85 | % | 70-130 | 06.12.19 00.29 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS05** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-005 | Date Collected: | 06.03.19 16.20 | Sample Depth: | 0.5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | SPC | | | % Moisture: | |
| Analyst: | SPC | Date Prep: | 06.08.19 14.00 | Basis: | Wet Weight |
| Seq Number: | 3091691 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **396** | 4.97 | mg/kg | 06.08.19 16.44 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | ARM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 06.07.19 16.00 | Basis: | Wet Weight |
| Seq Number: | 3091704 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.08.19 01.31 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 06.08.19 01.31 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.08.19 01.31 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 06.08.19 01.31 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 06.08.19 01.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 06.08.19 01.31 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 06.08.19 01.31 | |

# Certificate of Analytical Results 626933

## LT Environmental, Inc., Arvada, CO

JRU DI #1 127H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS05** | Matrix: | Soil | Date Received: | 06.07.19 11.40 |
| Lab Sample Id: | 626933-005 | Date Collected: | 06.03.19 16.20 | Sample Depth: | 0.5 |
| Analytical Method: | BTEX by EPA 8021 | | | Prep Method: | SW5030B |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | DVM | Date Prep: | 06.11.19 08.30 | Basis: | Wet Weight |
| Seq Number: | 3091974 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.48 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 06.12.19 00.48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 06.12.19 00.48 | U | 1 |
| **o-Xylene** | 95-47-6 | **0.00202** | 0.00200 | mg/kg | 06.12.19 00.48 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00202** | 0.00200 | mg/kg | 06.12.19 00.48 | | 1 |
| **Total BTEX** | | **0.00202** | 0.00200 | mg/kg | 06.12.19 00.48 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 59 | % | 70-130 | 06.12.19 00.48 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 06.12.19 00.48 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**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 626933



## LT Environmental, Inc.

JRU DI #1 127H

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Solid Date Prep: 06.08.19
MB Sample Id: 7679534-1-BLK LCS Sample Id: 7679534-1-BKS LCSD Sample Id: 7679534-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 245 | 98 | 246 | 98 | 90-110 | 0 | 20 | mg/kg | 06.08.19 15:03 | |

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Soil Date Prep: 06.08.19
Parent Sample Id: 626932-003 MS Sample Id: 626932-003 S MSD Sample Id: 626932-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 245 | 250 | 482 | 95 | 483 | 95 | 90-110 | 0 | 20 | mg/kg | 06.08.19 15:25 | |

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3091691 Matrix: Soil Date Prep: 06.08.19
Parent Sample Id: 626962-002 MS Sample Id: 626962-002 S MSD Sample Id: 626962-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 184 | 251 | 416 | 92 | 418 | 93 | 90-110 | 0 | 20 | mg/kg | 06.08.19 17:06 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3091703 Matrix: Solid Date Prep: 06.07.19
MB Sample Id: 7679503-1-BLK LCS Sample Id: 7679503-1-BKS LCSD Sample Id: 7679503-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 993 | 99 | 1030 | 103 | 70-135 | 4 | 20 | mg/kg | 06.07.19 13:13 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1110 | 111 | 1030 | 103 | 70-135 | 7 | 20 | mg/kg | 06.07.19 13:13 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 97 | | 102 | | 102 | | 70-135 | % | 06.07.19 13:13 |
| o-Terphenyl | 76 | | 115 | | 94 | | 70-135 | % | 06.07.19 13:13 |

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

# QC Summary 626933



## LT Environmental, Inc.

JRU DI #1 127H

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091704 — Matrix: Solid — Date Prep: 06.07.19
MB Sample Id: 7679504-1-BLK — LCS Sample Id: 7679504-1-BKS — LCSD Sample Id: 7679504-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 10.7 | 1000 | 1190 | 119 | 1190 | 119 | 70-135 | 0 | 20 | mg/kg | 06.08.19 00:41 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1160 | 116 | 1190 | 119 | 70-135 | 3 | 20 | mg/kg | 06.08.19 00:41 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 115 | | 120 | | 120 | | 70-135 | % | 06.08.19 00:41 |
| o-Terphenyl | 94 | | 121 | | 111 | | 70-135 | % | 06.08.19 00:41 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091703 — Matrix: Soil — Date Prep: 06.07.19
Parent Sample Id: 626930-001 — MS Sample Id: 626930-001 S — MSD Sample Id: 626930-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 12.8 | 999 | 976 | 96 | 982 | 97 | 70-135 | 1 | 20 | mg/kg | 06.07.19 14:29 | |
| Diesel Range Organics (DRO) | 108 | 999 | 973 | 87 | 1090 | 98 | 70-135 | 11 | 20 | mg/kg | 06.07.19 14:29 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | | 102 | | 70-135 | % | 06.07.19 14:29 |
| o-Terphenyl | 87 | | 106 | | 70-135 | % | 06.07.19 14:29 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3091704 — Matrix: Soil — Date Prep: 06.07.19
Parent Sample Id: 626933-005 — MS Sample Id: 626933-005 S — MSD Sample Id: 626933-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 13.6 | 997 | 1160 | 115 | 1200 | 119 | 70-135 | 3 | 20 | mg/kg | 06.08.19 01:56 | |
| Diesel Range Organics (DRO) | 8.96 | 997 | 1110 | 110 | 1150 | 114 | 70-135 | 4 | 20 | mg/kg | 06.08.19 01:56 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 116 | | 119 | | 70-135 | % | 06.08.19 01:56 |
| o-Terphenyl | 111 | | 113 | | 70-135 | % | 06.08.19 01:56 |

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

# QC Summary 626933



## LT Environmental, Inc.

JRU DI #1 127H

**Analytical Method:** **BTEX by EPA 8021** Prep Method: SW5030B

Seq Number: 3091974 Matrix: Solid Date Prep: 06.11.19

MB Sample Id: 7679699-1-BLK LCS Sample Id: 7679699-1-BKS LCSD Sample Id: 7679699-1-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 | 0.0956 | 96 | 0.103 | 102 | 70-130 | 7 | 35 | mg/kg | 06.11.19 17:05 | |
| Toluene | <0.00200 | 0.100 | 0.0910 | 91 | 0.0967 | 96 | 70-130 | 6 | 35 | mg/kg | 06.11.19 17:05 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0991 | 99 | 0.104 | 103 | 70-130 | 5 | 35 | mg/kg | 06.11.19 17:05 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.204 | 102 | 0.216 | 107 | 70-130 | 6 | 35 | mg/kg | 06.11.19 17:05 | |
| o-Xylene | <0.00200 | 0.100 | 0.102 | 102 | 0.108 | 107 | 70-130 | 6 | 35 | mg/kg | 06.11.19 17:05 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 88 | | 103 | | 103 | | 70-130 | % | 06.11.19 17:05 |
| 4-Bromofluorobenzene | 76 | | 107 | | 96 | | 70-130 | % | 06.11.19 17:05 |

**Analytical Method:** **BTEX by EPA 8021** Prep Method: SW5030B

Seq Number: 3091974 Matrix: Soil Date Prep: 06.11.19

Parent Sample Id: 626931-010 MS Sample Id: 626931-010 S MSD Sample Id: 626931-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000383 | 0.0996 | 0.0871 | 87 | 0.0992 | 100 | 70-130 | 13 | 35 | mg/kg | 06.11.19 17:44 | |
| Toluene | <0.000454 | 0.0996 | 0.0905 | 91 | 0.0943 | 95 | 70-130 | 4 | 35 | mg/kg | 06.11.19 17:44 | |
| Ethylbenzene | <0.000563 | 0.0996 | 0.101 | 101 | 0.104 | 105 | 70-130 | 3 | 35 | mg/kg | 06.11.19 17:44 | |
| m,p-Xylenes | <0.00101 | 0.199 | 0.205 | 103 | 0.213 | 107 | 70-130 | 4 | 35 | mg/kg | 06.11.19 17:44 | |
| o-Xylene | 0.000549 | 0.0996 | 0.0976 | 97 | 0.104 | 104 | 70-130 | 6 | 35 | mg/kg | 06.11.19 17:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 100 | | 104 | | 70-130 | % | 06.11.19 17:44 |
| 4-Bromofluorobenzene | 63 | ** | 91 | | 70-130 | % | 06.11.19 17:44 |

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

Page 885 of 1119

# 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: 626933

Page 1 of 1

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

**Work Order Comments**

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

| | |
|---|---|
| Project Name: | JRV DI #1 127H |
| Project Number: | |
| P.O. Number: | |
| Sampler's Name: | Robert McAfee |

**Turn Around**
Routine ☐
Rush: 3 day
Due Date:

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 0.5 10.3 | Thermometer ID | RB |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SS01 | S | 06/03/19 | 1600 | 0.5 | 1 | X | X | X |
| SS02 | | | 1605 | | | X | X | X |
| SS03 | | | 1610 | | | X | X | X |
| SS04 | | | 1615 | | | X | X | X |
| SS05 | | | 1620 | | | X | X | X |

**Work Order Notes**

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

**Sample Comments**

SS01: discrete

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Robert McAfee | | 06-06-19 15:30 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
Page 20 of 21

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 06/07/2019 11:40:00 AM

**Work Order #:** 626933

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

**Temperature Measuring device used : R8**

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Katie Lowe Date: 06/07/2019

**Checklist reviewed by:** Jessica Kramer Date: 06/07/2019

Jessica Kramer

# Analytical Report 631327

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU DI #127**

**29-JUL-19**

Collected By: Client




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

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

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

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

29-JUL-19

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

Reference: XENCO Report No(s): **631327**
**JRU DI #127**
Project Address: Delaware Basin

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 631327. 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. 631327 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 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH01 | S | 07-15-19 09:15 | 1 ft | 631327-001 |
| PH01A | S | 07-15-19 10:00 | 4 ft | 631327-002 |
| PH02 | S | 07-15-19 10:30 | 2 ft | 631327-003 |
| PH02A | S | 07-15-19 11:00 | 4 ft | 631327-004 |
| PH03 | S | 07-15-19 11:15 | 1 ft | 631327-005 |
| PH03A | S | 07-15-19 12:00 | 4 ft | 631327-006 |
| PH04 | S | 07-15-19 12:10 | 1 ft | 631327-007 |
| PH04A | S | 07-15-19 12:40 | 4 ft | 631327-008 |
| PH05 | S | 07-15-19 12:50 | 1 ft | 631327-009 |
| PH05A | S | 07-15-19 13:15 | 4 ft | 631327-010 |
| PH06 | S | 07-15-19 13:20 | 1 ft | 631327-011 |
| PH06A | S | 07-15-19 13:45 | 4 ft | 631327-012 |
| PH07 | S | 07-15-19 14:00 | 1 ft | 631327-013 |
| PH07A | S | 07-15-19 14:15 | 4 ft | 631327-014 |
| PH08 | S | 07-15-19 14:30 | 1 ft | 631327-015 |
| PH08A | S | 07-15-19 14:34 | 4 ft | 631327-016 |
| PH10 | S | 07-16-19 09:35 | 1 ft | 631327-017 |
| PH10A | S | 07-16-19 09:55 | 4 ft | 631327-018 |
| PH11 | S | 07-16-19 10:55 | 2 ft | 631327-019 |
| PH11A | S | 07-16-19 11:10 | 4 ft | 631327-020 |
| PH12 | S | 07-16-19 11:15 | 1 ft | 631327-021 |
| PH12A | S | 07-16-19 11:45 | 4 ft | 631327-022 |
| PH13 | S | 07-16-19 12:15 | 3 ft | 631327-023 |
| PH13A | S | 07-16-19 12:20 | 4 ft | 631327-024 |
| PH14 | S | 07-16-19 12:50 | 3 ft | 631327-025 |
| PH14A | S | 07-16-19 13:00 | 4 ft | 631327-026 |
| PH15 | S | 07-16-19 13:35 | 2 ft | 631327-027 |
| PH15A | S | 07-16-19 14:00 | 4 ft | 631327-028 |
| PH16 | S | 07-16-19 14:30 | 2 ft | 631327-029 |
| PH16A | S | 07-17-19 15:00 | 4 ft | 631327-030 |
| PH17 | S | 07-17-19 08:45 | 2 ft | 631327-031 |
| PH17A | S | 07-17-19 09:15 | 4 ft | 631327-032 |
| PH18 | S | 07-17-19 09:30 | 1 ft | 631327-033 |
| PH18A | S | 07-17-19 10:15 | 4 ft | 631327-034 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI #127***

Project ID:
Work Order Number(s): *631327*

Report Date: *29-JUL-19*
Date Received: *07/18/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3096313 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3096390 BTEX by EPA 8021B
Lab Sample ID 631327-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 631327-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for m,p-Xylenes, Ethylbenzene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 631327-017,631327-020,631327-019.

Batch: LBA-3096593 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Samples affected are: 7682825-1-BLK,631327-002.

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-001 | | 631327-002 | | 631327-003 | | 631327-004 | | 631327-005 | | 631327-006 | |
| | ***Field Id:*** | PH01 | | PH01A | | PH02 | | PH02A | | PH03 | | PH03A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 2- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-15-19 09:15 | | Jul-15-19 10:00 | | Jul-15-19 10:30 | | Jul-15-19 11:00 | | Jul-15-19 11:15 | | Jul-15-19 12:00 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | |
| | ***Analyzed:*** | Jul-24-19 14:47 | | Jul-24-19 03:57 | | Jul-24-19 15:07 | | Jul-24-19 17:25 | | Jul-24-19 04:58 | | Jul-24-19 17:45 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00396 | 0.00396 | <0.00399 | 0.00399 | <0.00397 | 0.00397 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-22-19 15:45 | | Jul-22-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | |
| | ***Analyzed:*** | Jul-19-19 18:53 | | Jul-19-19 18:27 | | Jul-22-19 18:27 | | Jul-22-19 18:33 | | Jul-19-19 19:20 | | Jul-19-19 19:25 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 96.7 | 49.9 | <4.95 | 4.95 | 23.5 | 4.95 | 6.81 | 5.02 | 116 | 50.4 | 46.4 | 5.05 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | |
| | ***Analyzed:*** | Jul-25-19 13:39 | | Jul-25-19 14:52 | | Jul-25-19 15:16 | | Jul-25-19 15:40 | | Jul-25-19 16:04 | | Jul-25-19 16:28 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | 20.1 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total TPH | | 20.1 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |
| Total GRO-DRO | | 20.1 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 |

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



Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-007 | | 631327-008 | | 631327-009 | | 631327-010 | | 631327-011 | | 631327-012 | |
| | ***Field Id:*** | PH04 | | PH04A | | PH05 | | PH05A | | PH06 | | PH06A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-15-19 12:10 | | Jul-15-19 12:40 | | Jul-15-19 12:50 | | Jul-15-19 13:15 | | Jul-15-19 13:20 | | Jul-15-19 13:45 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | |
| | ***Analyzed:*** | Jul-24-19 05:38 | | Jul-24-19 05:58 | | Jul-24-19 06:18 | | Jul-24-19 06:39 | | Jul-24-19 07:57 | | Jul-24-19 18:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00397 | 0.00397 | <0.00402 | 0.00402 | <0.00397 | 0.00397 | <0.00403 | 0.00403 | <0.00402 | 0.00402 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00198 | 0.00198 | <0.00202 | 0.00202 | <0.00201 | 0.00201 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 15:45 | | Jul-22-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | |
| | ***Analyzed:*** | Jul-19-19 19:31 | | Jul-22-19 18:38 | | Jul-19-19 19:41 | | Jul-19-19 19:57 | | Jul-19-19 20:03 | | Jul-19-19 20:19 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 128 | 25.3 | 11.8 | 4.95 | 31.4 | 4.96 | <5.00 | 5.00 | 94.0 | 5.03 | <4.99 | 4.99 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | |
| | ***Analyzed:*** | Jul-25-19 16:52 | | Jul-25-19 17:16 | | Jul-25-19 17:41 | | Jul-25-19 18:05 | | Jul-25-19 18:53 | | Jul-25-19 19:17 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-013 | | 631327-014 | | 631327-015 | | 631327-016 | | 631327-017 | | 631327-018 | |
| | ***Field Id:*** | PH07 | | PH07A | | PH08 | | PH08A | | PH10 | | PH10A | |
| | ***Depth:*** | 1- ft | | 4- ft | | 1- ft | | 4- ft | | 1- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-15-19 14:00 | | Jul-15-19 14:15 | | Jul-15-19 14:30 | | Jul-15-19 14:34 | | Jul-16-19 09:35 | | Jul-16-19 09:55 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:56 | |
| | ***Analyzed:*** | Jul-24-19 18:25 | | Jul-24-19 18:45 | | Jul-24-19 19:06 | | Jul-24-19 09:45 | | Jul-24-19 15:27 | | Jul-24-19 13:47 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Toluene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00397 | 0.00397 | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | | Jul-19-19 15:45 | |
| | ***Analyzed:*** | Jul-19-19 20:24 | | Jul-19-19 20:30 | | Jul-19-19 20:35 | | Jul-19-19 20:40 | | Jul-19-19 20:46 | | Jul-19-19 20:51 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <5.02 | 5.02 | <4.98 | 4.98 | 11.3 | 5.00 | 62.5 | 50.0 | 5.18 | 5.00 | <5.01 | 5.01 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | | Jul-25-19 10:00 | |
| | ***Analyzed:*** | Jul-25-19 19:41 | | Jul-25-19 20:05 | | Jul-25-19 20:28 | | Jul-25-19 20:52 | | Jul-25-19 21:16 | | Jul-25-19 21:39 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-019 | | 631327-020 | | 631327-021 | | 631327-022 | | 631327-023 | | 631327-024 | |
| | ***Field Id:*** | PH11 | | PH11A | | PH12 | | PH12A | | PH13 | | PH13A | |
| | ***Depth:*** | 2- ft | | 4- ft | | 1- ft | | 4- ft | | 3- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-16-19 10:55 | | Jul-16-19 11:10 | | Jul-16-19 11:15 | | Jul-16-19 11:45 | | Jul-16-19 12:15 | | Jul-16-19 12:20 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:56 | | Jul-22-19 11:56 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | |
| | ***Analyzed:*** | Jul-24-19 14:07 | | Jul-24-19 14:27 | | Jul-23-19 20:39 | | Jul-23-19 20:59 | | Jul-23-19 21:19 | | Jul-23-19 05:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00401 | 0.00401 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | |
| | ***Analyzed:*** | Jul-20-19 03:03 | | Jul-20-19 03:09 | | Jul-20-19 03:16 | | Jul-20-19 03:22 | | Jul-20-19 03:41 | | Jul-20-19 03:47 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 845 | 5.02 | <5.00 | 5.00 | 37.7 | 4.98 | 10.5 | 5.05 | 165 | 5.05 | 531 | 5.05 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-25-19 10:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | |
| | ***Analyzed:*** | Jul-25-19 22:03 | | Jul-26-19 12:54 | | Jul-26-19 14:06 | | Jul-26-19 14:30 | | Jul-26-19 14:55 | | Jul-26-19 15:19 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-025 | | 631327-026 | | 631327-027 | | 631327-028 | | 631327-029 | | 631327-030 | |
| | ***Field Id:*** | PH14 | | PH14A | | PH15 | | PH15A | | PH16 | | PH16A | |
| | ***Depth:*** | 3- ft | | 4- ft | | 2- ft | | 4- ft | | 2- ft | | 4- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-16-19 12:50 | | Jul-16-19 13:00 | | Jul-16-19 13:35 | | Jul-16-19 14:00 | | Jul-16-19 14:30 | | Jul-17-19 15:00 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | |
| | ***Analyzed:*** | Jul-23-19 05:25 | | Jul-23-19 05:45 | | Jul-23-19 21:39 | | Jul-23-19 21:59 | | Jul-23-19 22:20 | | Jul-23-19 07:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Toluene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Ethylbenzene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| m,p-Xylenes | | <0.00398 | 0.00398 | <0.00404 | 0.00404 | <0.00397 | 0.00397 | <0.00402 | 0.00402 | <0.00400 | 0.00400 | <0.00398 | 0.00398 |
| o-Xylene | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total Xylenes | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| Total BTEX | | <0.00199 | 0.00199 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | <0.00199 | 0.00199 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-22-19 15:45 | |
| | ***Analyzed:*** | Jul-20-19 03:54 | | Jul-20-19 04:00 | | Jul-20-19 04:06 | | Jul-20-19 04:13 | | Jul-20-19 04:32 | | Jul-22-19 18:22 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 43.3 | 5.00 | 103 | 5.00 | 535 | 5.04 | <5.00 | 5.00 | 1150 | 50.3 | 8.93 | 4.99 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-26-19 08:00 | | Jul-24-19 08:00 | | Jul-24-19 08:00 | | Jul-24-19 08:00 | |
| | ***Analyzed:*** | Jul-26-19 15:43 | | Jul-26-19 16:07 | | Jul-26-19 16:32 | | Jul-24-19 18:06 | | Jul-24-19 18:30 | | Jul-24-19 18:55 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | 16.8 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | 16.8 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | 16.8 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631327

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #127

**Project Id:**

**Contact:** Dan Moir

**Project Location:** Delaware Basin

**Date Received in Lab:** Thu Jul-18-19 08:35 am

**Report Date:** 29-JUL-19

**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631327-031 | | 631327-032 | | 631327-033 | | 631327-034 | | | | | |
| | ***Field Id:*** | PH17 | | PH17A | | PH18 | | PH18A | | | | | |
| | ***Depth:*** | 2- ft | | 4- ft | | 1- ft | | 4- ft | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | Jul-17-19 08:45 | | Jul-17-19 09:15 | | Jul-17-19 09:30 | | Jul-17-19 10:15 | | | | | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | Jul-22-19 11:13 | | | | | |
| | ***Analyzed:*** | Jul-23-19 23:38 | | Jul-23-19 23:58 | | Jul-24-19 00:18 | | Jul-24-19 00:38 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| Toluene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00398 | 0.00398 | <0.00398 | 0.00398 | <0.00403 | 0.00403 | | | | |
| o-Xylene | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| Total BTEX | | <0.00201 | 0.00201 | <0.00199 | 0.00199 | <0.00199 | 0.00199 | <0.00202 | 0.00202 | | | | |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | Jul-19-19 16:15 | | | | | |
| | ***Analyzed:*** | Jul-20-19 04:57 | | Jul-20-19 05:03 | | Jul-20-19 05:10 | | Jul-20-19 05:16 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | 117 | 4.99 | <4.95 | 4.95 | 125 | 50.4 | <5.01 | 5.01 | | | | |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-24-19 08:00 | | Jul-24-19 08:00 | | Jul-24-19 08:00 | | Jul-24-19 08:00 | | | | | |
| | ***Analyzed:*** | Jul-24-19 19:19 | | Jul-24-19 19:43 | | Jul-24-19 20:08 | | Jul-24-19 20:32 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |

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

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-001 | Date Collected: | 07.15.19 09.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **96.7** | 49.9 | mg/kg | 07.19.19 18.53 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 13.39 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **20.1** | 15.0 | mg/kg | 07.25.19 13.39 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 13.39 | U | 1 |
| **Total TPH** | PHC635 | **20.1** | 15.0 | mg/kg | 07.25.19 13.39 | | 1 |
| **Total GRO-DRO** | PHC628 | **20.1** | 15.0 | mg/kg | 07.25.19 13.39 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 07.25.19 13.39 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 07.25.19 13.39 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-001 | Date Collected: | 07.15.19 09.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 14.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 14.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 07.24.19 14.47 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 07.24.19 14.47 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-002 | Date Collected: | 07.15.19 10.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.19.19 18.27 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 14.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 14.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 14.52 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 14.52 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 14.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.25.19 14.52 | |
| o-Terphenyl | 84-15-1 | 66 | % | 70-135 | 07.25.19 14.52 | ** |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH01A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-002 | Date Collected: | 07.15.19 10.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 03.57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 03.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 117 | % | 70-130 | 07.24.19 03.57 | |
| 1,4-Difluorobenzene | 540-36-3 | 118 | % | 70-130 | 07.24.19 03.57 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-003 | Date Collected: | 07.15.19 10.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096131 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **23.5** | 4.95 | mg/kg | 07.22.19 18.27 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 15.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 15.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 15.16 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 15.16 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 15.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 07.25.19 15.16 | |
| o-Terphenyl | 84-15-1 | 89 | % | 70-135 | 07.25.19 15.16 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-003 | Date Collected: | 07.15.19 10.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 07.24.19 15.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.24.19 15.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 07.24.19 15.07 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 07.24.19 15.07 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-004 | Date Collected: | 07.15.19 11.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096131 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6.81** | 5.02 | mg/kg | 07.22.19 18.33 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 15.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 15.40 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 15.40 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 15.40 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 15.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.25.19 15.40 | |
| o-Terphenyl | 84-15-1 | 74 | % | 70-135 | 07.25.19 15.40 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH02A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-004 | Date Collected: | 07.15.19 11.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.24.19 17.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 17.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.24.19 17.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 122 | % | 70-130 | 07.24.19 17.25 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-005 | Date Collected: | 07.15.19 11.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **116** | 50.4 | mg/kg | 07.19.19 19.20 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.25.19 16.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.25.19 16.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.25.19 16.04 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.25.19 16.04 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.25.19 16.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 80 | % | 70-135 | 07.25.19 16.04 | |
| o-Terphenyl | 84-15-1 | 75 | % | 70-135 | 07.25.19 16.04 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-005 | Date Collected: | 07.15.19 11.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.24.19 04.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.24.19 04.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 07.24.19 04.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 07.24.19 04.58 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-006 | Date Collected: | 07.15.19 12.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **46.4** | 5.05 | mg/kg | 07.19.19 19.25 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 16.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 16.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 16.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 16.28 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 16.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 07.25.19 16.28 | |
| o-Terphenyl | 84-15-1 | 88 | % | 70-135 | 07.25.19 16.28 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH03A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-006 | Date Collected: | 07.15.19 12.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 17.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 17.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 07.24.19 17.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.24.19 17.45 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-007 | Date Collected: | 07.15.19 12.10 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **128** | 25.3 | mg/kg | 07.19.19 19.31 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 16.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 16.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 16.52 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 16.52 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 16.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 07.25.19 16.52 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.25.19 16.52 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-007 | Date Collected: | 07.15.19 12.10 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.24.19 05.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 05.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.24.19 05.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 05.38 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-008 | Date Collected: | 07.15.19 12.40 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096131 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.8** | 4.95 | mg/kg | 07.22.19 18.38 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 17.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 17.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 17.16 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 17.16 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 17.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 79 | % | 70-135 | 07.25.19 17.16 | |
| o-Terphenyl | 84-15-1 | 74 | % | 70-135 | 07.25.19 17.16 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH04A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-008 | Date Collected: | 07.15.19 12.40 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.24.19 05.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.24.19 05.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.24.19 05.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.24.19 05.58 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-009 | Date Collected: | 07.15.19 12.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **31.4** | 4.96 | mg/kg | 07.19.19 19.41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 17.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 17.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 17.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 17.41 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 17.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.25.19 17.41 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 07.25.19 17.41 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-009 | Date Collected: | 07.15.19 12.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 06.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 06.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 118 | % | 70-130 | 07.24.19 06.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.24.19 06.18 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-010 | Date Collected: | 07.15.19 13.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.19.19 19.57 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 18.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 18.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 18.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 18.05 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 18.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.25.19 18.05 | |
| o-Terphenyl | 84-15-1 | 74 | % | 70-135 | 07.25.19 18.05 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH05A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-010 | Date Collected: | 07.15.19 13.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.24.19 06.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.24.19 06.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.24.19 06.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.24.19 06.39 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-011 | Date Collected: | 07.15.19 13.20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **94.0** | 5.03 | mg/kg | 07.19.19 20.03 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 18.53 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 18.53 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 18.53 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 18.53 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 18.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 07.25.19 18.53 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 07.25.19 18.53 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-011 | Date Collected: | 07.15.19 13.20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.24.19 07.57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.24.19 07.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 121 | % | 70-130 | 07.24.19 07.57 | |
| 1,4-Difluorobenzene | 540-36-3 | 118 | % | 70-130 | 07.24.19 07.57 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-012 | Date Collected: | 07.15.19 13.45 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.99 | 4.99 | mg/kg | 07.19.19 20.19 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 19.17 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 19.17 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 19.17 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 19.17 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 19.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.25.19 19.17 | |
| o-Terphenyl | 84-15-1 | 73 | % | 70-135 | 07.25.19 19.17 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH06A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-012 | Date Collected: | 07.15.19 13.45 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 18.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 07.24.19 18.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.24.19 18.05 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-013 | Date Collected: | 07.15.19 14.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.02 | 5.02 | mg/kg | 07.19.19 20.24 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 19.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 19.41 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 19.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 19.41 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 19.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.25.19 19.41 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.25.19 19.41 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-013 | Date Collected: | 07.15.19 14.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.24.19 18.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.24.19 18.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 07.24.19 18.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 121 | % | 70-130 | 07.24.19 18.25 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-014 | Date Collected: | 07.15.19 14.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.98 | 4.98 | mg/kg | 07.19.19 20.30 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 20.05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 20.05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 20.05 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 20.05 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 20.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 07.25.19 20.05 | |
| o-Terphenyl | 84-15-1 | 86 | % | 70-135 | 07.25.19 20.05 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH07A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-014 | Date Collected: | 07.15.19 14.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 18.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 18.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 07.24.19 18.45 | |
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.24.19 18.45 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-015 | Date Collected: | 07.15.19 14.30 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.3** | 5.00 | mg/kg | 07.19.19 20.35 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 20.28 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 20.28 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 20.28 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 20.28 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 20.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 07.25.19 20.28 | |
| o-Terphenyl | 84-15-1 | 93 | % | 70-135 | 07.25.19 20.28 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-015 | Date Collected: | 07.15.19 14.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 19.06 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 19.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.24.19 19.06 | |
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.24.19 19.06 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-016 | Date Collected: | 07.15.19 14.34 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **62.5** | 50.0 | mg/kg | 07.19.19 20.40 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 20.52 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 20.52 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 20.52 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 20.52 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 20.52 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 85 | % | 70-135 | 07.25.19 20.52 | |
| o-Terphenyl | 84-15-1 | 80 | % | 70-135 | 07.25.19 20.52 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH08A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-016 | Date Collected: | 07.15.19 14.34 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 09.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 09.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 07.24.19 09.45 | |
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.24.19 09.45 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-017 | Date Collected: | 07.16.19 09.35 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5.18** | 5.00 | mg/kg | 07.19.19 20.46 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 21.16 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 21.16 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 21.16 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 21.16 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 21.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 07.25.19 21.16 | |
| o-Terphenyl | 84-15-1 | 83 | % | 70-135 | 07.25.19 21.16 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-017 | Date Collected: | 07.16.19 09.35 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 15.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 15.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 144 | % | 70-130 | 07.24.19 15.27 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 07.24.19 15.27 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-018 | Date Collected: | 07.16.19 09.55 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096026 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.01 | 5.01 | mg/kg | 07.19.19 20.51 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 21.39 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 21.39 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 21.39 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 21.39 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 21.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 07.25.19 21.39 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 07.25.19 21.39 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH10A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-018 | Date Collected: | 07.16.19 09.55 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 13.47 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 13.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 07.24.19 13.47 | |
| 4-Bromofluorobenzene | 460-00-4 | 119 | % | 70-130 | 07.24.19 13.47 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-019 | Date Collected: | 07.16.19 10.55 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **845** | 5.02 | mg/kg | 07.20.19 03.03 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.25.19 10.00 | Basis: | Wet Weight |
| Seq Number: | 3096593 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.25.19 22.03 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.25.19 22.03 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.25.19 22.03 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.25.19 22.03 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.25.19 22.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 07.25.19 22.03 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 07.25.19 22.03 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-019 | Date Collected: | 07.16.19 10.55 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.24.19 14.07 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.24.19 14.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 07.24.19 14.07 | |
| 4-Bromofluorobenzene | 460-00-4 | 131 | % | 70-130 | 07.24.19 14.07 | ** |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-020 | Date Collected: | 07.16.19 11.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.20.19 03.09 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 12.54 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 12.54 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 12.54 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 12.54 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 12.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 86 | % | 70-135 | 07.26.19 12.54 | |
| o-Terphenyl | 84-15-1 | 80 | % | 70-135 | 07.26.19 12.54 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH11A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-020 | Date Collected: | 07.16.19 11.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.56 | Basis: | Wet Weight |
| Seq Number: | 3096390 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.24.19 14.27 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.24.19 14.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 142 | % | 70-130 | 07.24.19 14.27 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 07.24.19 14.27 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-021 | Date Collected: | 07.16.19 11.15 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **37.7** | 4.98 | mg/kg | 07.20.19 03.16 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.26.19 14.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.26.19 14.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.26.19 14.06 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.26.19 14.06 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.26.19 14.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.26.19 14.06 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 07.26.19 14.06 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-021 | Date Collected: | 07.16.19 11.15 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.23.19 20.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.23.19 20.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 128 | % | 70-130 | 07.23.19 20.39 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 07.23.19 20.39 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-022 | Date Collected: | 07.16.19 11.45 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.5** | 5.05 | mg/kg | 07.20.19 03.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 14.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 14.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 14.30 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 14.30 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 14.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 07.26.19 14.30 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.26.19 14.30 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH12A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-022 | Date Collected: | 07.16.19 11.45 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.23.19 20.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.23.19 20.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.23.19 20.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 118 | % | 70-130 | 07.23.19 20.59 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-023 | Date Collected: | 07.16.19 12.15 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **165** | 5.05 | mg/kg | 07.20.19 03.41 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 14.55 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 14.55 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 14.55 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 14.55 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 14.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.26.19 14.55 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 07.26.19 14.55 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-023 | Date Collected: | 07.16.19 12.15 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.23.19 21.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.23.19 21.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.23.19 21.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 119 | % | 70-130 | 07.23.19 21.19 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-024 | Date Collected: | 07.16.19 12.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **531** | 5.05 | mg/kg | 07.20.19 03.47 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 15.19 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 15.19 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 15.19 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 15.19 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 15.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 07.26.19 15.19 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.26.19 15.19 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH13A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-024 | Date Collected: | 07.16.19 12.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.23.19 05.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.23.19 05.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 07.23.19 05.05 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.23.19 05.05 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-025 | Date Collected: | 07.16.19 12.50 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **43.3** | 5.00 | mg/kg | 07.20.19 03.54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 15.43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.26.19 15.43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 15.43 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.26.19 15.43 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.26.19 15.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 82 | % | 70-135 | 07.26.19 15.43 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.26.19 15.43 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-025 | Date Collected: | 07.16.19 12.50 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.23.19 05.25 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.23.19 05.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.23.19 05.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 07.23.19 05.25 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-026 | Date Collected: | 07.16.19 13.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **103** | 5.00 | mg/kg | 07.20.19 04.00 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.26.19 16.07 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **16.8** | 15.0 | mg/kg | 07.26.19 16.07 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.26.19 16.07 | U | 1 |
| **Total TPH** | PHC635 | **16.8** | 15.0 | mg/kg | 07.26.19 16.07 | | 1 |
| **Total GRO-DRO** | PHC628 | **16.8** | 15.0 | mg/kg | 07.26.19 16.07 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 83 | % | 70-135 | 07.26.19 16.07 | |
| o-Terphenyl | 84-15-1 | 71 | % | 70-135 | 07.26.19 16.07 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH14A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-026 | Date Collected: | 07.16.19 13.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 07.23.19 05.45 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.23.19 05.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 07.23.19 05.45 | |
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 07.23.19 05.45 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-027 | Date Collected: | 07.16.19 13.35 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **535** | 5.04 | mg/kg | 07.20.19 04.06 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.26.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096711 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.26.19 16.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.26.19 16.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.26.19 16.32 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.26.19 16.32 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.26.19 16.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 84 | % | 70-135 | 07.26.19 16.32 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 07.26.19 16.32 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-027 | Date Collected: | 07.16.19 13.35 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 07.23.19 21.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.23.19 21.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 120 | % | 70-130 | 07.23.19 21.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.23.19 21.39 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-028 | Date Collected: | 07.16.19 14.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.20.19 04.13 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 18.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 18.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 18.06 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 18.06 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 18.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 07.24.19 18.06 | |
| o-Terphenyl | 84-15-1 | 76 | % | 70-135 | 07.24.19 18.06 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH15A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-028 | Date Collected: | 07.16.19 14.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.23.19 21.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.23.19 21.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.23.19 21.59 | |
| 4-Bromofluorobenzene | 460-00-4 | 112 | % | 70-130 | 07.23.19 21.59 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-029 | Date Collected: | 07.16.19 14.30 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1150** | 50.3 | mg/kg | 07.20.19 04.32 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 18.30 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 18.30 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 18.30 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 18.30 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 18.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 07.24.19 18.30 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 07.24.19 18.30 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-029 | Date Collected: | 07.16.19 14.30 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.23.19 22.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.23.19 22.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 07.23.19 22.20 | |
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.23.19 22.20 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-030 | Date Collected: | 07.17.19 15.00 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096131 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **8.93** | 4.99 | mg/kg | 07.22.19 18.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 18.55 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 18.55 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 18.55 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 18.55 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 18.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 07.24.19 18.55 | |
| o-Terphenyl | 84-15-1 | 73 | % | 70-135 | 07.24.19 18.55 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH16A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-030 | Date Collected: | 07.17.19 15.00 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.23.19 07.05 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.23.19 07.05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 07.23.19 07.05 | |
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 07.23.19 07.05 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-031 | Date Collected: | 07.17.19 08.45 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **117** | 4.99 | mg/kg | 07.20.19 04.57 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 19.19 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 19.19 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 19.19 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 19.19 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 19.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 07.24.19 19.19 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.24.19 19.19 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-031 | Date Collected: | 07.17.19 08.45 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 07.23.19 23.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 07.23.19 23.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 07.23.19 23.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.23.19 23.38 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-032 | Date Collected: | 07.17.19 09.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.95 | 4.95 | mg/kg | 07.20.19 05.03 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 19.43 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 19.43 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 19.43 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 19.43 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 19.43 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 07.24.19 19.43 | |
| o-Terphenyl | 84-15-1 | 77 | % | 70-135 | 07.24.19 19.43 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH17A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-032 | Date Collected: | 07.17.19 09.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.23.19 23.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.23.19 23.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.23.19 23.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 07.23.19 23.58 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-033 | Date Collected: | 07.17.19 09.30 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **125** | 50.4 | mg/kg | 07.20.19 05.10 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 20.08 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 20.08 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 20.08 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 20.08 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 20.08 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 07.24.19 20.08 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.24.19 20.08 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-033 | Date Collected: | 07.17.19 09.30 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.24.19 00.18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.24.19 00.18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.24.19 00.18 | |
| 1,4-Difluorobenzene | 540-36-3 | 118 | % | 70-130 | 07.24.19 00.18 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-034 | Date Collected: | 07.17.19 10.15 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.19.19 16.15 | Basis: | Wet Weight |
| Seq Number: | 3096030 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.01 | 5.01 | mg/kg | 07.20.19 05.16 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.24.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096438 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.24.19 20.32 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.24.19 20.32 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.24.19 20.32 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.24.19 20.32 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.24.19 20.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 96 | % | 70-135 | 07.24.19 20.32 | |
| o-Terphenyl | 84-15-1 | 70 | % | 70-135 | 07.24.19 20.32 | |

# Certificate of Analytical Results 631327

## LT Environmental, Inc., Arvada, CO

JRU DI #127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH18A** | Matrix: | Soil | Date Received: | 07.18.19 08.35 |
| Lab Sample Id: | 631327-034 | Date Collected: | 07.17.19 10.15 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.22.19 11.13 | Basis: | Wet Weight |
| Seq Number: | 3096313 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 07.24.19 00.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 07.24.19 00.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 117 | % | 70-130 | 07.24.19 00.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 116 | % | 70-130 | 07.24.19 00.38 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 631327



## LT Environmental, Inc.

JRU DI #127

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096026 — Matrix: Solid — Date Prep: 07.19.19
MB Sample Id: 7682396-1-BLK — LCS Sample Id: 7682396-1-BKS — LCSD Sample Id: 7682396-1-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 | 257 | 103 | 90-110 | 0 | 20 | mg/kg | 07.19.19 18:16 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096030 — Matrix: Solid — Date Prep: 07.19.19
MB Sample Id: 7682399-1-BLK — LCS Sample Id: 7682399-1-BKS — LCSD Sample Id: 7682399-1-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 | 251 | 100 | 253 | 101 | 90-110 | 1 | 20 | mg/kg | 07.20.19 02:32 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Solid — Date Prep: 07.22.19
MB Sample Id: 7682539-1-BLK — LCS Sample Id: 7682539-1-BKS — LCSD Sample Id: 7682539-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 248 | 99 | 244 | 98 | 90-110 | 2 | 20 | mg/kg | 07.22.19 17:23 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096026 — Matrix: Soil — Date Prep: 07.19.19
Parent Sample Id: 631327-002 — MS Sample Id: 631327-002 S — MSD Sample Id: 631327-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1.23 | 248 | 259 | 104 | 267 | 107 | 90-110 | 3 | 20 | mg/kg | 07.19.19 18:32 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096026 — Matrix: Soil — Date Prep: 07.19.19
Parent Sample Id: 631327-009 — MS Sample Id: 631327-009 S — MSD Sample Id: 631327-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 31.4 | 248 | 292 | 105 | 295 | 106 | 90-110 | 1 | 20 | mg/kg | 07.19.19 19:47 | |

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

# QC Summary 631327



## LT Environmental, Inc.

JRU DI #127

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096030 — Matrix: Soil — Date Prep: 07.19.19
Parent Sample Id: 631327-028 — MS Sample Id: 631327-028 S — MSD Sample Id: 631327-028 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.99 | 250 | 263 | 103 | 264 | 104 | 90-110 | 0 | 20 | mg/kg | 07.20.19 04:19 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096030 — Matrix: Soil — Date Prep: 07.19.19
Parent Sample Id: 631573-002 — MS Sample Id: 631573-002 S — MSD Sample Id: 631573-002 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 | 274 | 103 | 276 | 104 | 90-110 | 1 | 20 | mg/kg | 07.20.19 02:51 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631394-001 — MS Sample Id: 631394-001 S — MSD Sample Id: 631394-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 17.2 | 248 | 275 | 104 | 272 | 103 | 90-110 | 1 | 20 | mg/kg | 07.22.19 17:39 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631517-001 — MS Sample Id: 631517-001 S — MSD Sample Id: 631517-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 215 | 251 | 469 | 101 | 466 | 100 | 90-110 | 1 | 20 | mg/kg | 07.22.19 18:54 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096438 — Matrix: Solid — Date Prep: 07.24.19
MB Sample Id: 7682725-1-BLK — LCS Sample Id: 7682725-1-BKS — LCSD Sample Id: 7682725-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 959 | 96 | 988 | 99 | 70-135 | 3 | 20 | mg/kg | 07.24.19 11:21 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1060 | 106 | 1100 | 110 | 70-135 | 4 | 20 | mg/kg | 07.24.19 11:21 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 94 | | 93 | | 91 | | 70-135 | % | 07.24.19 11:21 |
| o-Terphenyl | 92 | | 99 | | 101 | | 70-135 | % | 07.24.19 11:21 |

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

# QC Summary 631327



## LT Environmental, Inc.

JRU DI #127

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096593 — Matrix: Solid — Date Prep: 07.25.19
MB Sample Id: 7682825-1-BLK — LCS Sample Id: 7682825-1-BKS — LCSD Sample Id: 7682825-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 897 | 90 | 868 | 87 | 70-135 | 3 | 20 | mg/kg | 07.25.19 12:51 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 885 | 89 | 917 | 92 | 70-135 | 4 | 20 | mg/kg | 07.25.19 12:51 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 79 | | 78 | | 70-135 | % | 07.25.19 12:51 |
| o-Terphenyl | 66 | ** | 83 | | 79 | | 70-135 | % | 07.25.19 12:51 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096711 — Matrix: Solid — Date Prep: 07.26.19
MB Sample Id: 7682976-1-BLK — LCS Sample Id: 7682976-1-BKS — LCSD Sample Id: 7682976-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 907 | 91 | 846 | 85 | 70-135 | 7 | 20 | mg/kg | 07.26.19 12:06 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1050 | 105 | 988 | 99 | 70-135 | 6 | 20 | mg/kg | 07.26.19 12:06 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 78 | | 89 | | 76 | | 70-135 | % | 07.26.19 12:06 |
| o-Terphenyl | 82 | | 103 | | 90 | | 70-135 | % | 07.26.19 12:06 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096438 — Matrix: Soil — Date Prep: 07.24.19
Parent Sample Id: 631065-001 — MS Sample Id: 631065-001 S — MSD Sample Id: 631065-001 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) | 9.48 | 997 | 993 | 99 | 1050 | 104 | 70-135 | 6 | 20 | mg/kg | 07.24.19 12:32 | |
| Diesel Range Organics (DRO) | 11.0 | 997 | 1110 | 110 | 1170 | 116 | 70-135 | 5 | 20 | mg/kg | 07.24.19 12:32 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 95 | | 99 | | 70-135 | % | 07.24.19 12:32 |
| o-Terphenyl | 99 | | 104 | | 70-135 | % | 07.24.19 12:32 |

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

# QC Summary 631327

## LT Environmental, Inc.

JRU DI #127

**Analytical Method:** TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3096593 | Matrix: Soil | Date Prep: 07.25.19
Parent Sample Id: 631327-001 | MS Sample Id: 631327-001 S | MSD Sample Id: 631327-001 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) | 8.72 | 997 | 916 | 91 | 896 | 89 | 70-135 | 2 | 20 | mg/kg | 07.25.19 14:03 | |
| Diesel Range Organics (DRO) | 20.1 | 997 | 960 | 94 | 952 | 93 | 70-135 | 1 | 20 | mg/kg | 07.25.19 14:03 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 75 | | 73 | | 70-135 | % | 07.25.19 14:03 |
| o-Terphenyl | 81 | | 79 | | 70-135 | % | 07.25.19 14:03 |

**Analytical Method:** TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3096711 | Matrix: Soil | Date Prep: 07.26.19
Parent Sample Id: 631327-020 | MS Sample Id: 631327-020 S | MSD Sample Id: 631327-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 10.1 | 997 | 906 | 90 | 930 | 92 | 70-135 | 3 | 20 | mg/kg | 07.26.19 13:18 | |
| Diesel Range Organics (DRO) | <8.10 | 997 | 1030 | 103 | 1050 | 105 | 70-135 | 2 | 20 | mg/kg | 07.26.19 13:18 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 77 | | 80 | | 70-135 | % | 07.26.19 13:18 |
| o-Terphenyl | 82 | | 82 | | 70-135 | % | 07.26.19 13:18 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3096313 | Matrix: Solid | Date Prep: 07.22.19
MB Sample Id: 7682519-1-BLK | LCS Sample Id: 7682519-1-BKS | LCSD Sample Id: 7682519-1-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 | 0.119 | 119 | 0.121 | 121 | 70-130 | 2 | 35 | mg/kg | 07.23.19 01:54 | |
| Toluene | 0.00134 | 0.100 | 0.104 | 104 | 0.106 | 106 | 70-130 | 2 | 35 | mg/kg | 07.23.19 01:54 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0984 | 98 | 0.102 | 102 | 70-130 | 4 | 35 | mg/kg | 07.23.19 01:54 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.198 | 99 | 0.205 | 103 | 70-130 | 3 | 35 | mg/kg | 07.23.19 01:54 | |
| o-Xylene | <0.00200 | 0.100 | 0.0961 | 96 | 0.100 | 100 | 70-130 | 4 | 35 | mg/kg | 07.23.19 01:54 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 107 | | 108 | | 108 | | 70-130 | % | 07.23.19 01:54 |
| 4-Bromofluorobenzene | 95 | | 95 | | 96 | | 70-130 | % | 07.23.19 01:54 |

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

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

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

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

# QC Summary 631327

## LT Environmental, Inc.

JRU DI #127

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3096390 — Matrix: Solid — Date Prep: 07.22.19
MB Sample Id: 7682520-1-BLK — LCS Sample Id: 7682520-1-BKS — LCSD Sample Id: 7682520-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00149 | 0.100 | 0.108 | 108 | 0.110 | 110 | 70-130 | 2 | 35 | mg/kg | 07.24.19 01:38 | |
| Toluene | 0.00159 | 0.100 | 0.0981 | 98 | 0.0978 | 98 | 70-130 | 0 | 35 | mg/kg | 07.24.19 01:38 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0873 | 87 | 0.0860 | 86 | 70-130 | 2 | 35 | mg/kg | 07.24.19 01:38 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.181 | 91 | 0.177 | 89 | 70-130 | 2 | 35 | mg/kg | 07.24.19 01:38 | |
| o-Xylene | 0.000410 | 0.100 | 0.0959 | 96 | 0.0930 | 93 | 70-130 | 3 | 35 | mg/kg | 07.24.19 01:38 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 117 | | 107 | | 109 | | 70-130 | % | 07.24.19 01:38 |
| 4-Bromofluorobenzene | 113 | | 111 | | 106 | | 70-130 | % | 07.24.19 01:38 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3096313 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631327-021 — MS Sample Id: 631327-021 S — MSD Sample Id: 631327-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | 0.101 | 0.103 | 102 | 0.0992 | 98 | 70-130 | 4 | 35 | mg/kg | 07.23.19 02:34 | |
| Toluene | 0.00125 | 0.101 | 0.0882 | 86 | 0.0825 | 80 | 70-130 | 7 | 35 | mg/kg | 07.23.19 02:34 | |
| Ethylbenzene | <0.00201 | 0.101 | 0.0826 | 82 | 0.0777 | 77 | 70-130 | 6 | 35 | mg/kg | 07.23.19 02:34 | |
| m,p-Xylenes | <0.00402 | 0.201 | 0.166 | 83 | 0.154 | 77 | 70-130 | 8 | 35 | mg/kg | 07.23.19 02:34 | |
| o-Xylene | <0.00201 | 0.101 | 0.0820 | 81 | 0.0754 | 75 | 70-130 | 8 | 35 | mg/kg | 07.23.19 02:34 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 113 | | 115 | | 70-130 | % | 07.23.19 02:34 |
| 4-Bromofluorobenzene | 99 | | 96 | | 70-130 | % | 07.23.19 02:34 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3096390 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631327-001 — MS Sample Id: 631327-001 S — MSD Sample Id: 631327-001 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 | 0.0869 | 87 | 0.108 | 108 | 70-130 | 22 | 35 | mg/kg | 07.24.19 02:18 | |
| Toluene | <0.000456 | 0.100 | 0.0757 | 76 | 0.0936 | 94 | 70-130 | 21 | 35 | mg/kg | 07.24.19 02:18 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0628 | 63 | 0.0819 | 82 | 70-130 | 26 | 35 | mg/kg | 07.24.19 02:18 | X |
| m,p-Xylenes | <0.00101 | 0.200 | 0.125 | 63 | 0.169 | 85 | 70-130 | 30 | 35 | mg/kg | 07.24.19 02:18 | X |
| o-Xylene | <0.00200 | 0.100 | 0.0699 | 70 | 0.0875 | 88 | 70-130 | 22 | 35 | mg/kg | 07.24.19 02:18 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 112 | | 115 | | 70-130 | % | 07.24.19 02:18 |
| 4-Bromofluorobenzene | 112 | | 105 | | 70-130 | % | 07.24.19 02:18 |

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

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# Chain of Custody

XENCO LABORATORIES

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Work Order No: 631327

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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | slo@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: | JRU DI #127 | Turn Around | |
| Project Number: | 2RP-4625 | Routine | ☑ |
| Project Location | | Rush: | |
| Sampler's Name: | Spencer Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temperature (°C): | ~~2.0~~ 0.2 | Temp Blank: | Yes (No) |
| Received Intact: | Yes (No) | Thermometer ID | T-NM-007 |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chloride (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH01 | S | 7.15.19 | 9:15 | 1' | 1 | | | |
| | PH01A | S | | 1000 | 4' | | | | |
| | PH02 | S | | 1030 | 2' | | | | |
| | PH02A | S | | 1100 | 4' | | | | |
| | PH03 | S | | 1115 | 1' | | | | |
| | PH03A | S | | 1200 | 4' | | | | |
| | PH04 | S | | 1210 | 1' | | | | |
| | PH04 | S | | 1240 | 4' | | | | |
| | PH05 | S | | 1250 | 1' | | | | |
| | PH05A | S | | 1315 | 4' | | | | |

ANALYSIS REQUEST

Preservative Codes
MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

Sample Comments

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| Spencer Lo | | 8:35/7.19.19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 032819 Rev. 2019.1

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crailsbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 631327

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| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432-236-3849 | Email: | Slee@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: | JBU DI #127 | Turn Around | |
| Project Number: | LRP-4625 | Routine: ☑ | |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer Lee | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | Yes (No) |
| Temperature (°C): | 10.0 | 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: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chlorides (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH00 | S | 7-15-19 | 1320 | 1' | 1 | | | |
| | PH06A | | 7-15-19 | 1345 | 4' | | | | |
| | PH07 | | 7-15-19 | 1400 | 1' | | | | |
| | PH07A | | 7-15-19 | 1415 | 4' | | | | |
| | PH08 | | 7-15-19 | 1430 | 1' | | | | |
| | PH08A | | 7-15-19 | 1445 | 4' | | | | |
| | ~~PH09A~~ | | 7-16-19 | 825 | 5' | | | | |
| | PH10 | | 7-16-19 | 935 | 1' | | | | |
| | PH10A | | 7-16-19 | 955 | 4' | | | | |
| | PH11 | | 7-16-19 | 1055 | 2' | | | | |

**ANALYSIS REQUEST**

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 9:35 / 7-19-19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 08/2019 Rev. 2019.1

Received by OCD: 12/11/2020 11:30:06 AM

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# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crosbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com

Work Order No: 631327

Page 3 of 4

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | GT Environmental, Inc. | Company Name: | RTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | klo@rtoenv.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: | JAL DI #127 | Turn Around | |
| Project Number: | 2RP-4625 | Routine: ☑ | |
| Project Location: | | Rush: | |
| Sampler's Name: | Spencer Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | Yes (No) |
| Temperature (°C): | 8.0 | 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: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH11A | S | 7-16-19 | 1110 | 4' | 1 | | | |
| | PH12 | | | 1115 | 1' | | | | |
| | PH12A | | | 1145 | 4' | | | | |
| | PH13 | | | 1215 | 3' | | | | |
| | PH13A | | | 1230 | 4' | | | | |
| | PH14 | | | 1250 | 3' | | | | |
| | PH14A | | | 1300 | 4' | | | | |
| | PH15 | | | 1335 | 2' | | | | |
| | PH15A | | | 1400 | 4' | | | | |
| | PH16 | | | 1430 | 2' | | | | |

**ANALYSIS REQUEST**

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

Sample Comments

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 835 7-19-19 | 5 | | |
| | | | 6 | | |

Revised Date 082419 Rev. 2019.1

Received by OCD: 12/11/2020 11:30:06 AM

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XENCO LABORATORIES

# Chain of Custody

Work Order No: 631327

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

Page 4 of 4

| | | | |
|---|---|---|---|
| Project Manager: | ~~LT Env~~ Dan Moir | Bill to: (if different) | Kyle Littrel |
| Company Name: | LT Environmental, Inc. | Company Name: | XTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.236.3849 | Email: | |

**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: | JAU DI #127 | Turn Around | |
| Project Number: | 2LP-4625 | Routine | ☑ |
| Project Location | | Rush: | |
| Sampler's Name: | Spencer Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | Yes (No) |
| Temperature (°C): | 0.0 | Thermometer ID | T-NM-037 |
| Received Intact: | Yes (No) | Correction Factor: | -0.2 |
| Cooler Custody Seals: | Yes (No) N/A | Total Containers: | 5 |
| Sample Custody Seals: | Yes (No) N/A | | |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH16A | S | 7.16.19 | 1300 | 4' | 1 | X | X | X |
| | PH17 | | 7.17.19 | 845 | 2' | 1 | X | X | X |
| | PH17A | | ↓ | 915 | 4' | 1 | X | X | X |
| | PH18 | | | 930 | 1' | 1 | X | X | X |
| | PH18A | | | 1015 | 4' | 1 | X | X | X |

ANALYSIS REQUEST

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
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 |
|---|---|---|---|---|---|
| | | 8 35 7/19/19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 032913 Rev. 2013.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
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# Inter-Office Shipment





**IOS Number** **43708**

Date/Time: 07/18/19 10:39
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 7757 8077 6800

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 631327-001 | S | PH01 | 07/15/19 09:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-001 | S | PH01 | 07/15/19 09:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-001 | S | PH01 | 07/15/19 09:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-002 | S | PH01A | 07/15/19 10:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-002 | S | PH01A | 07/15/19 10:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-002 | S | PH01A | 07/15/19 10:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-003 | S | PH02 | 07/15/19 10:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-003 | S | PH02 | 07/15/19 10:30 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-003 | S | PH02 | 07/15/19 10:30 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-004 | S | PH02A | 07/15/19 11:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-004 | S | PH02A | 07/15/19 11:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-004 | S | PH02A | 07/15/19 11:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-005 | S | PH03 | 07/15/19 11:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-005 | S | PH03 | 07/15/19 11:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-005 | S | PH03 | 07/15/19 11:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-006 | S | PH03A | 07/15/19 12:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-006 | S | PH03A | 07/15/19 12:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-006 | S | PH03A | 07/15/19 12:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-007 | S | PH04 | 07/15/19 12:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-007 | S | PH04 | 07/15/19 12:10 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-007 | S | PH04 | 07/15/19 12:10 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-008 | S | PH04A | 07/15/19 12:40 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-008 | S | PH04A | 07/15/19 12:40 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-008 | S | PH04A | 07/15/19 12:40 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-009 | S | PH05 | 07/15/19 12:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |

# Inter-Office Shipment





**IOS Number** **43708**

Date/Time: 07/18/19 10:39
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 7757 8077 6800
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631327-009 | S | PH05 | 07/15/19 12:50 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-009 | S | PH05 | 07/15/19 12:50 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-010 | S | PH05A | 07/15/19 13:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-010 | S | PH05A | 07/15/19 13:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-010 | S | PH05A | 07/15/19 13:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-011 | S | PH06 | 07/15/19 13:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-011 | S | PH06 | 07/15/19 13:20 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-011 | S | PH06 | 07/15/19 13:20 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-012 | S | PH06A | 07/15/19 13:45 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-012 | S | PH06A | 07/15/19 13:45 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-012 | S | PH06A | 07/15/19 13:45 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-013 | S | PH07 | 07/15/19 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-013 | S | PH07 | 07/15/19 14:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-013 | S | PH07 | 07/15/19 14:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-014 | S | PH07A | 07/15/19 14:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-014 | S | PH07A | 07/15/19 14:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-014 | S | PH07A | 07/15/19 14:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-015 | S | PH08 | 07/15/19 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-015 | S | PH08 | 07/15/19 14:30 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-015 | S | PH08 | 07/15/19 14:30 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-016 | S | PH08A | 07/15/19 14:34 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/11/20 | JKR | CL | |
| 631327-016 | S | PH08A | 07/15/19 14:34 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/29/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-016 | S | PH08A | 07/15/19 14:34 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/29/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-017 | S | PH10 | 07/16/19 09:35 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-017 | S | PH10 | 07/16/19 09:35 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |

**Inter Office Shipment or Sample Comments:**

# Inter-Office Shipment





**IOS Number** **43708**

Date/Time: 07/18/19 10:39
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 7757 8077 6800
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631327-017 | S | PH10 | 07/16/19 09:35 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-018 | S | PH10A | 07/16/19 09:55 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-018 | S | PH10A | 07/16/19 09:55 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-018 | S | PH10A | 07/16/19 09:55 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-019 | S | PH11 | 07/16/19 10:55 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-019 | S | PH11 | 07/16/19 10:55 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-019 | S | PH11 | 07/16/19 10:55 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-020 | S | PH11A | 07/16/19 11:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-020 | S | PH11A | 07/16/19 11:10 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-020 | S | PH11A | 07/16/19 11:10 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-021 | S | PH12 | 07/16/19 11:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-021 | S | PH12 | 07/16/19 11:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-021 | S | PH12 | 07/16/19 11:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-022 | S | PH12A | 07/16/19 11:45 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-022 | S | PH12A | 07/16/19 11:45 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-022 | S | PH12A | 07/16/19 11:45 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-023 | S | PH13 | 07/16/19 12:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-023 | S | PH13 | 07/16/19 12:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-023 | S | PH13 | 07/16/19 12:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-024 | S | PH13A | 07/16/19 12:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-024 | S | PH13A | 07/16/19 12:20 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-024 | S | PH13A | 07/16/19 12:20 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-025 | S | PH14 | 07/16/19 12:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-025 | S | PH14 | 07/16/19 12:50 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-025 | S | PH14 | 07/16/19 12:50 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |

**Inter Office Shipment or Sample Comments:**

Relinquished By:

Received By:

# Inter-Office Shipment





**IOS Number** **43708**

Date/Time: 07/18/19 10:39
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 7757 8077 6800
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631327-026 | S | PH14A | 07/16/19 13:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-026 | S | PH14A | 07/16/19 13:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-026 | S | PH14A | 07/16/19 13:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-027 | S | PH15 | 07/16/19 13:35 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-027 | S | PH15 | 07/16/19 13:35 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-027 | S | PH15 | 07/16/19 13:35 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-028 | S | PH15A | 07/16/19 14:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-028 | S | PH15A | 07/16/19 14:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-028 | S | PH15A | 07/16/19 14:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-029 | S | PH16 | 07/16/19 14:30 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/12/20 | JKR | CL | |
| 631327-029 | S | PH16 | 07/16/19 14:30 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-029 | S | PH16 | 07/16/19 14:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-030 | S | PH16A | 07/17/19 15:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/31/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-030 | S | PH16A | 07/17/19 15:00 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/13/20 | JKR | CL | |
| 631327-030 | S | PH16A | 07/17/19 15:00 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/31/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-031 | S | PH17 | 07/17/19 08:45 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/31/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-031 | S | PH17 | 07/17/19 08:45 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/13/20 | JKR | CL | |
| 631327-031 | S | PH17 | 07/17/19 08:45 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/31/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-032 | S | PH17A | 07/17/19 09:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/13/20 | JKR | CL | |
| 631327-032 | S | PH17A | 07/17/19 09:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/31/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-032 | S | PH17A | 07/17/19 09:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/31/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-033 | S | PH18 | 07/17/19 09:30 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/31/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631327-033 | S | PH18 | 07/17/19 09:30 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/31/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631327-033 | S | PH18 | 07/17/19 09:30 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/13/20 | JKR | CL | |
| 631327-034 | S | PH18A | 07/17/19 10:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/24/19 | 07/31/19 | JKR | GRO-DRO PHCC10C28 PI | |

**Inter Office Shipment or Sample Comments:**

Date Relinquished:
Date Received:

# Inter-Office Shipment





**IOS Number** **43708**

Date/Time: 07/18/19 10:39
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 7757 8077 6800

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 631327-034 | S | PH18A | 07/17/19 10:15 | E300_CL | Chloride by EPA 300 | 07/24/19 | 01/13/20 | JKR | CL | |
| 631327-034 | S | PH18A | 07/17/19 10:15 | SW8021B | BTEX by EPA 8021B | 07/24/19 | 07/31/19 | JKR | BR4FBZ BZ BZME EBZ X | |

**Inter Office Shipment or Sample Comments:**

Elizabeth McClellan
07/18/2019

Cooler Temperature:

Katie Lowe
07/19/2019 11:45
4.2

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 43708

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

**Sent By:** Elizabeth McClellan **Date Sent:** 07/18/2019 10:39 AM

**Received By:** Katie Lowe **Date Received:** 07/19/2019 11:45 AM

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 4.2 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received with appropriate temperature? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **Yes** | |
| #5 *Custody Seals Signed and dated for Containers/coolers | **Yes** | |
| #6 *IOS present? | **Yes** | |
| #7 Any missing/extra samples? | **No** | |
| #8 IOS agrees with sample label(s)/matrix? | **Yes** | |
| #9 Sample matrix/ properties agree with IOS? | **Yes** | |
| #10 Samples in proper container/ bottle? | **Yes** | |
| #11 Samples properly preserved? | **Yes** | |
| #12 Sample container(s) intact? | **Yes** | |
| #13 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #14 All samples received within hold time? | **Yes** | |

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

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

**Checklist reviewed by:** _____ Date: 07/19/2019

Katie Lowe

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 07/18/2019 08:35:00 AM

**Work Order #:** 631327

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

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

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 07/18/2019

**Checklist reviewed by:** Jessica Kramer Date: 07/22/2019

Jessica Kramer

# Analytical Report 631518

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU 127**

**2RP- 4625**

**31-JUL-19**

Collected By: Client




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

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

31-JUL-19

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

Reference: XENCO Report No(s): **631518**
**JRU 127**
Project Address: Delaware Basin

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 631518. 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. 631518 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 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| PH09 | S | 07-16-19 09:00 | 1 ft | 631518-001 |
| PH09A | S | 07-16-19 09:10 | 2 ft | 631518-002 |
| PH09B | S | 07-16-19 09:15 | 3 ft | 631518-003 |
| PH09C | S | 07-16-19 09:20 | 4 ft | 631518-004 |
| PH09D | S | 07-16-19 09:25 | 5 ft | 631518-005 |
| PH19 | S | 07-16-19 13:50 | 1 ft | 631518-006 |
| PH19A | S | 07-16-19 14:10 | 4 ft | 631518-007 |
| PH19B | S | 07-16-19 14:20 | 5 ft | 631518-008 |
| PH20 | S | 07-16-19 14:25 | 1 ft | 631518-009 |
| PH20A | S | 07-16-19 14:50 | 4 ft | 631518-010 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU 127***

Project ID: *2RP- 4625*
Work Order Number(s): *631518*

Report Date: *31-JUL-19*
Date Received: *07/19/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3096598 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3096809 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Samples affected are: 7682997-1-BLK,631518-003,631518-004,631518-009,631518-008,631518-010,631518-001,631518-002,631518-005,631518-007.

# Certificate of Analysis Summary 631518

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU 127

**Project Id:** 2RP- 4625
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 31-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631518-001 | | 631518-002 | | 631518-003 | | 631518-004 | | 631518-005 | | 631518-006 | |
| | ***Field Id:*** | PH09 | | PH09A | | PH09B | | PH09C | | PH09D | | PH19 | |
| | ***Depth:*** | 1- ft | | 2- ft | | 3- ft | | 4- ft | | 5- ft | | 1- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Jul-16-19 09:00 | | Jul-16-19 09:10 | | Jul-16-19 09:15 | | Jul-16-19 09:20 | | Jul-16-19 09:25 | | Jul-16-19 13:50 | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | |
| | ***Analyzed:*** | Jul-26-19 02:59 | | Jul-26-19 04:17 | | Jul-26-19 04:37 | | Jul-26-19 10:56 | | Jul-26-19 05:17 | | Jul-26-19 05:37 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Toluene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | <0.00396 | 0.00396 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | | Jul-23-19 10:10 | |
| | ***Analyzed:*** | Jul-23-19 12:29 | | Jul-23-19 12:34 | | Jul-23-19 12:40 | | Jul-23-19 12:45 | | Jul-23-19 12:50 | | Jul-23-19 12:56 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 13.4 | 4.96 | 57.5 | 5.00 | 526 | 5.01 | 1540 | 24.8 | 474 | 24.9 | 6.88 | 4.99 |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | |
| | ***Analyzed:*** | Jul-29-19 12:56 | | Jul-28-19 12:13 | | Jul-28-19 12:36 | | Jul-28-19 13:00 | | Jul-28-19 13:24 | | Jul-28-19 13:48 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total GRO-DRO | | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |

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

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

Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 631518

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU 127

**Project Id:** 2RP- 4625
**Contact:** Dan Moir
**Project Location:** Delaware Basin

**Date Received in Lab:** Fri Jul-19-19 08:30 am
**Report Date:** 31-JUL-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 631518-007 | | 631518-008 | | 631518-009 | | 631518-010 | | | | | | | |
| | ***Field Id:*** | PH19A | | PH19B | | PH20 | | PH20A | | | | | | | |
| | ***Depth:*** | 4- ft | | 5- ft | | 1- ft | | 4- ft | | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | | | | | | |
| | ***Sampled:*** | Jul-16-19 14:10 | | Jul-16-19 14:20 | | Jul-16-19 14:25 | | Jul-16-19 14:50 | | | | | | | |
| **BTEX by EPA 8021B SUB: T104704400-18-16** | ***Extracted:*** | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | Jul-24-19 11:35 | | | | | | | |
| | ***Analyzed:*** | Jul-26-19 05:58 | | Jul-26-19 11:16 | | Jul-26-19 06:38 | | Jul-26-19 06:58 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00400 | 0.00400 | <0.00398 | 0.00398 | <0.00400 | 0.00400 | | | | | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | | | | | | |
| **Chloride by EPA 300 SUB: T104704400-18-16** | ***Extracted:*** | Jul-23-19 10:10 | | Jul-23-19 10:30 | | Jul-23-19 10:30 | | Jul-22-19 15:45 | | | | | | | |
| | ***Analyzed:*** | Jul-23-19 13:01 | | Jul-23-19 13:33 | | Jul-23-19 13:49 | | Jul-22-19 19:58 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Chloride | | 50.5 | 5.00 | 11.7 | 5.04 | <4.96 | 4.96 | <5.00 | 5.00 | | | | | | |
| **TPH by SW8015 Mod SUB: T104704400-18-16** | ***Extracted:*** | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | | Jul-28-19 08:00 | | | | | | | |
| | ***Analyzed:*** | Jul-28-19 14:12 | | Jul-28-19 14:36 | | Jul-29-19 13:20 | | Jul-28-19 15:24 | | | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | | | |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Diesel Range Organics (DRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total TPH | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |
| Total GRO-DRO | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | | | | | | |

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



Version: 1.%

Jessica Kramer
Project Assistant

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-001 | Date Collected: | 07.16.19 09.00 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.4** | 4.96 | mg/kg | 07.23.19 12.29 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.29.19 12.56 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.29.19 12.56 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.29.19 12.56 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.29.19 12.56 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.29.19 12.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 77 | % | 70-135 | 07.29.19 12.56 | |
| o-Terphenyl | 84-15-1 | 63 | % | 70-135 | 07.29.19 12.56 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-001 | Date Collected: | 07.16.19 09.00 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 02.59 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 02.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.26.19 02.59 | |
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 02.59 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-002 | Date Collected: | 07.16.19 09.10 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.5** | 5.00 | mg/kg | 07.23.19 12.34 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 12.13 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 12.13 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 12.13 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 12.13 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 12.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 07.28.19 12.13 | |
| o-Terphenyl | 84-15-1 | 65 | % | 70-135 | 07.28.19 12.13 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-002 | Date Collected: | 07.16.19 09.10 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.26.19 04.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.26.19 04.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 114 | % | 70-130 | 07.26.19 04.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 07.26.19 04.17 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09B** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-003 | Date Collected: | 07.16.19 09.15 | Sample Depth: | 3 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **526** | 5.01 | mg/kg | 07.23.19 12.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 12.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 12.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 12.36 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 12.36 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 12.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 71 | % | 70-135 | 07.28.19 12.36 | |
| o-Terphenyl | 84-15-1 | 59 | % | 70-135 | 07.28.19 12.36 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09B** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-003 | Date Collected: | 07.16.19 09.15 | Sample Depth: | 3 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 07.26.19 04.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 04.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 07.26.19 04.37 | |
| 1,4-Difluorobenzene | 540-36-3 | 102 | % | 70-130 | 07.26.19 04.37 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09C** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-004 | Date Collected: | 07.16.19 09.20 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1540** | 24.8 | mg/kg | 07.23.19 12.45 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 13.00 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 13.00 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 13.00 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 13.00 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 13.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 71 | % | 70-135 | 07.28.19 13.00 | |
| o-Terphenyl | 84-15-1 | 61 | % | 70-135 | 07.28.19 13.00 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09C** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-004 | Date Collected: | 07.16.19 09.20 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.26.19 10.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.26.19 10.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 07.26.19 10.56 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.26.19 10.56 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09D** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-005 | Date Collected: | 07.16.19 09.25 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **474** | 24.9 | mg/kg | 07.23.19 12.50 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 13.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 13.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 13.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 13.24 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 13.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 75 | % | 70-135 | 07.28.19 13.24 | |
| o-Terphenyl | 84-15-1 | 64 | % | 70-135 | 07.28.19 13.24 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH09D** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-005 | Date Collected: | 07.16.19 09.25 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 05.17 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.17 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 07.26.19 05.17 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 07.26.19 05.17 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-006 | Date Collected: | 07.16.19 13.50 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **6.88** | 4.99 | mg/kg | 07.23.19 12.56 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 13.48 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 13.48 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 13.48 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 13.48 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 13.48 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 07.28.19 13.48 | |
| o-Terphenyl | 84-15-1 | 74 | % | 70-135 | 07.28.19 13.48 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-006 | Date Collected: | 07.16.19 13.50 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 07.26.19 05.37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 07.26.19 05.37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 118 | % | 70-130 | 07.26.19 05.37 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 07.26.19 05.37 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-007 | Date Collected: | 07.16.19 14.10 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.10 | Basis: | Wet Weight |
| Seq Number: | 3096267 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **50.5** | 5.00 | mg/kg | 07.23.19 13.01 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 14.12 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 14.12 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 14.12 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 14.12 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 14.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 71 | % | 70-135 | 07.28.19 14.12 | |
| o-Terphenyl | 84-15-1 | 68 | % | 70-135 | 07.28.19 14.12 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-007 | Date Collected: | 07.16.19 14.10 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 07.26.19 05.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 05.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 85 | % | 70-130 | 07.26.19 05.58 | |
| 4-Bromofluorobenzene | 460-00-4 | 130 | % | 70-130 | 07.26.19 05.58 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19B** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-008 | Date Collected: | 07.16.19 14.20 | Sample Depth: | 5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3096269 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.7** | 5.04 | mg/kg | 07.23.19 13.33 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 07.28.19 14.36 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 07.28.19 14.36 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 07.28.19 14.36 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 07.28.19 14.36 | U | 1 |
| Total GRO-DRO | PHC628 | <14.9 | 14.9 | mg/kg | 07.28.19 14.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 74 | % | 70-135 | 07.28.19 14.36 | |
| o-Terphenyl | 84-15-1 | 69 | % | 70-135 | 07.28.19 14.36 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH19B** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-008 | Date Collected: | 07.16.19 14.20 | Sample Depth: | 5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 11.16 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 11.16 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 111 | % | 70-130 | 07.26.19 11.16 | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 07.26.19 11.16 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-009 | Date Collected: | 07.16.19 14.25 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.23.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3096269 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 07.23.19 13.49 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.29.19 13.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.29.19 13.20 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.29.19 13.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.29.19 13.20 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.29.19 13.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 73 | % | 70-135 | 07.29.19 13.20 | |
| o-Terphenyl | 84-15-1 | 61 | % | 70-135 | 07.29.19 13.20 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-009 | Date Collected: | 07.16.19 14.25 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 07.26.19 06.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 07.26.19 06.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 07.26.19 06.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 123 | % | 70-130 | 07.26.19 06.38 | |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-010 | Date Collected: | 07.16.19 14.50 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 07.22.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3096131 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 07.22.19 19.58 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | TX1005P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 07.28.19 08.00 | Basis: | Wet Weight |
| Seq Number: | 3096809 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 07.28.19 15.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 07.28.19 15.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 07.28.19 15.24 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 07.28.19 15.24 | U | 1 |
| Total GRO-DRO | PHC628 | <15.0 | 15.0 | mg/kg | 07.28.19 15.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 70 | % | 70-135 | 07.28.19 15.24 | |
| o-Terphenyl | 84-15-1 | 62 | % | 70-135 | 07.28.19 15.24 | ** |

# Certificate of Analytical Results 631518

## LT Environmental, Inc., Arvada, CO

JRU 127

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **PH20A** | Matrix: | Soil | Date Received: | 07.19.19 08.30 |
| Lab Sample Id: | 631518-010 | Date Collected: | 07.16.19 14.50 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | ALG | | | % Moisture: | |
| Analyst: | FOV | Date Prep: | 07.24.19 11.35 | Basis: | Wet Weight |
| Seq Number: | 3096598 | | | SUB: | T104704400-18-16 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 07.26.19 06.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 07.26.19 06.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 120 | % | 70-130 | 07.26.19 06.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 07.26.19 06.58 | |

# 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 631518



## LT Environmental, Inc.

JRU 127

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Solid — Date Prep: 07.22.19
MB Sample Id: 7682539-1-BLK — LCS Sample Id: 7682539-1-BKS — LCSD Sample Id: 7682539-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 248 | 99 | 244 | 98 | 90-110 | 2 | 20 | mg/kg | 07.22.19 17:23 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Solid — Date Prep: 07.23.19
MB Sample Id: 7682574-1-BLK — LCS Sample Id: 7682574-1-BKS — LCSD Sample Id: 7682574-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 242 | 97 | 242 | 97 | 90-110 | 0 | 20 | mg/kg | 07.23.19 10:26 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096269 — Matrix: Solid — Date Prep: 07.23.19
MB Sample Id: 7682576-1-BLK — LCS Sample Id: 7682576-1-BKS — LCSD Sample Id: 7682576-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 246 | 98 | 243 | 97 | 90-110 | 1 | 20 | mg/kg | 07.23.19 13:22 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631394-001 — MS Sample Id: 631394-001 S — MSD Sample Id: 631394-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 17.2 | 248 | 275 | 104 | 272 | 103 | 90-110 | 1 | 20 | mg/kg | 07.22.19 17:39 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096131 — Matrix: Soil — Date Prep: 07.22.19
Parent Sample Id: 631517-001 — MS Sample Id: 631517-001 S — MSD Sample Id: 631517-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 215 | 251 | 469 | 101 | 466 | 100 | 90-110 | 1 | 20 | mg/kg | 07.22.19 18:54 | |

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

# QC Summary 631518



## LT Environmental, Inc.

JRU 127

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631513-017 — MS Sample Id: 631513-017 S — MSD Sample Id: 631513-017 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12.4 | 250 | 269 | 103 | 265 | 101 | 90-110 | 1 | 20 | mg/kg | 07.23.19 10:42 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096267 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631513-025 — MS Sample Id: 631513-025 S — MSD Sample Id: 631513-025 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 0.896 | 251 | 253 | 100 | 251 | 100 | 90-110 | 1 | 20 | mg/kg | 07.23.19 11:57 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096269 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631518-008 — MS Sample Id: 631518-008 S — MSD Sample Id: 631518-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 11.7 | 252 | 274 | 104 | 269 | 102 | 90-110 | 2 | 20 | mg/kg | 07.23.19 13:38 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096269 — Matrix: Soil — Date Prep: 07.23.19
Parent Sample Id: 631667-009 — MS Sample Id: 631667-009 S — MSD Sample Id: 631667-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 259 | 104 | 255 | 102 | 90-110 | 2 | 20 | mg/kg | 07.23.19 14:53 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3096809 — Matrix: Solid — Date Prep: 07.28.19
MB Sample Id: 7682997-1-BLK — LCS Sample Id: 7682997-1-BKS — LCSD Sample Id: 7682997-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <8.00 | 1000 | 903 | 90 | 861 | 86 | 70-135 | 5 | 20 | mg/kg | 07.28.19 10:08 | |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 951 | 95 | 909 | 91 | 70-135 | 5 | 20 | mg/kg | 07.28.19 10:08 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 79 | | 74 | | 71 | | 70-135 | % | 07.28.19 10:08 |
| o-Terphenyl | 66 | ** | 73 | | 74 | | 70-135 | % | 07.28.19 10:08 |

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

# QC Summary 631518



## LT Environmental, Inc.

JRU 127

**Analytical Method:** TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3096809 | Matrix: Soil | Date Prep: 07.28.19
Parent Sample Id: 631518-001 | MS Sample Id: 631518-001 S | MSD Sample Id: 631518-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | 10.9 | 997 | 848 | 84 | 861 | 85 | 70-135 | 2 | 20 | mg/kg | 07.28.19 11:24 | |
| Diesel Range Organics (DRO) | 8.59 | 997 | 909 | 90 | 912 | 91 | 70-135 | 0 | 20 | mg/kg | 07.28.19 11:24 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 80 | | 83 | | 70-135 | % | 07.28.19 11:24 |
| o-Terphenyl | 71 | | 70 | | 70-135 | % | 07.28.19 11:24 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3096598 | Matrix: Solid | Date Prep: 07.24.19
MB Sample Id: 7682689-1-BLK | LCS Sample Id: 7682689-1-BKS | LCSD Sample Id: 7682689-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000385 | 0.100 | 0.0979 | 98 | 0.107 | 107 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Toluene | 0.000510 | 0.100 | 0.0934 | 93 | 0.102 | 102 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| Ethylbenzene | <0.000565 | 0.100 | 0.0937 | 94 | 0.103 | 103 | 70-130 | 9 | 35 | mg/kg | 07.25.19 21:58 | |
| m,p-Xylenes | <0.00101 | 0.200 | 0.188 | 94 | 0.207 | 104 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |
| o-Xylene | <0.000344 | 0.100 | 0.0994 | 99 | 0.110 | 110 | 70-130 | 10 | 35 | mg/kg | 07.25.19 21:58 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 99 | | 100 | | 70-130 | % | 07.25.19 21:58 |
| 4-Bromofluorobenzene | 106 | | 108 | | 109 | | 70-130 | % | 07.25.19 21:58 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3096598 | Matrix: Soil | Date Prep: 07.24.19
Parent Sample Id: 631513-020 | MS Sample Id: 631513-020 S | MSD Sample Id: 631513-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0990 | 0.0887 | 90 | 0.0831 | 83 | 70-130 | 7 | 35 | mg/kg | 07.25.19 22:38 | |
| Toluene | <0.00198 | 0.0990 | 0.0813 | 82 | 0.0769 | 77 | 70-130 | 6 | 35 | mg/kg | 07.25.19 22:38 | |
| Ethylbenzene | <0.00198 | 0.0990 | 0.0805 | 81 | 0.0766 | 77 | 70-130 | 5 | 35 | mg/kg | 07.25.19 22:38 | |
| m,p-Xylenes | <0.00100 | 0.198 | 0.161 | 81 | 0.154 | 77 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |
| o-Xylene | <0.00198 | 0.0990 | 0.0865 | 87 | 0.0827 | 83 | 70-130 | 4 | 35 | mg/kg | 07.25.19 22:38 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 102 | | 70-130 | % | 07.25.19 22:38 |
| 4-Bromofluorobenzene | 111 | | 114 | | 70-130 | % | 07.25.19 22:38 |

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

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

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

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



Final 1.000

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# Chain of Custody

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 El Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Carlsbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 631518

Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc | Company Name: | RTO |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland Tx 79705 | City, State ZIP: | Carlsbad NM 88220 |
| Phone: | 432.234.3849 | Email: | klw@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: | JRU 127 | Turn Around | |
| Project Number: | 2RP-4615 | Routine ☑ | |
| Project Location | | Rush: | |
| Sampler's Name: | Spencer L. | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No |
| Temperature (°C): | 5.8 | Thermometer ID | T-210 |
| Received Intact: | (Yes) No | | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 10 |

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8012) | BTEX (EPA 8021) | Chlorides (EPA 300) |
|---|---|---|---|---|---|---|---|---|---|
| | PH01 | S | 7.16.19 | 900 | 1' | 1 | | | |
| | PH01A | | 7.16.19 | 910 | 2' | | | | |
| | PH01B | | 7.16.19 | 915 | 3' | | | | |
| | PH01C | | 7.16.19 | 920 | 4' | | | | |
| | PH01D | | 7.16.19 | 925 | 5' | | | | |
| | PH19 | | 7.18.19 | 1350 | 1' | | | | |
| | PH19A | | 7.18.19 | 1410 | 4' | | | | |
| | PH19B | | 7.18.19 | 1420 | 5' | | | | |
| | PH20 | | 7.18.19 | 1425 | 1' | | | | |
| | PH20A | | 7.18.19 | 1450 | 4' | | | | |

**ANALYSIS REQUEST**

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

**Sample Comments**

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 830 7-19-19 | 5 | | |
| | | | 6 | | |

Revised Date 082315 Rev. 2015.1

Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

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# Inter-Office Shipment





**IOS Number** **43850**

Date/Time: 07/19/19 11:33
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 631518-001 | S | PH09 | 07/16/19 09:00 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-001 | S | PH09 | 07/16/19 09:00 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-001 | S | PH09 | 07/16/19 09:00 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-002 | S | PH09A | 07/16/19 09:10 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-002 | S | PH09A | 07/16/19 09:10 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-002 | S | PH09A | 07/16/19 09:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-003 | S | PH09B | 07/16/19 09:15 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-003 | S | PH09B | 07/16/19 09:15 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-003 | S | PH09B | 07/16/19 09:15 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-004 | S | PH09C | 07/16/19 09:20 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-004 | S | PH09C | 07/16/19 09:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-004 | S | PH09C | 07/16/19 09:20 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-005 | S | PH09D | 07/16/19 09:25 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-005 | S | PH09D | 07/16/19 09:25 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-005 | S | PH09D | 07/16/19 09:25 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-006 | S | PH19 | 07/16/19 13:50 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-006 | S | PH19 | 07/16/19 13:50 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-006 | S | PH19 | 07/16/19 13:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-007 | S | PH19A | 07/16/19 14:10 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-007 | S | PH19A | 07/16/19 14:10 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-007 | S | PH19A | 07/16/19 14:10 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-008 | S | PH19B | 07/16/19 14:20 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-008 | S | PH19B | 07/16/19 14:20 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-008 | S | PH19B | 07/16/19 14:20 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 631518-009 | S | PH20 | 07/16/19 14:25 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |

# Inter-Office Shipment





**IOS Number** **43850**

Date/Time: 07/19/19 11:33
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 631518-009 | S | PH20 | 07/16/19 14:25 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-009 | S | PH20 | 07/16/19 14:25 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-010 | S | PH20A | 07/16/19 14:50 | SW8021B | BTEX by EPA 8021B | 07/25/19 | 07/30/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 631518-010 | S | PH20A | 07/16/19 14:50 | E300_CL | Chloride by EPA 300 | 07/25/19 | 01/12/20 | JKR | CL | |
| 631518-010 | S | PH20A | 07/16/19 14:50 | SW8015MOD_NM | TPH by SW8015 Mod | 07/25/19 | 07/30/19 | JKR | GRO-DRO PHCC10C28 PI | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Elizabeth McClellan

Date Relinquished: 07/19/2019

Received By: Katie Lowe

Date Received:

Cooler Temperature:

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 43850

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

**Sent By:** Elizabeth McClellan **Date Sent:** 07/19/2019 11:33 AM

**Received By:** **Date Received:**

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

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

**NonConformance:**

**Corrective Action Taken:**

**Nonconformance Documentation**

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

**Checklist reviewed by:** _____ Date: _____
Katie Lowe

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 07/19/2019 08:30:00 AM

**Work Order #:** 631518

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

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

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | 5.8 | |
| #2 *Shipping container in good condition? | **Yes** | |
| #3 *Samples received on ice? | **Yes** | |
| #4 *Custody Seals intact on shipping container/ cooler? | **No** | |
| #5 Custody Seals intact on sample bottles? | **No** | |
| #6*Custody Seals Signed and dated? | **N/A** | |
| #7 *Chain of Custody present? | **Yes** | |
| #8 Any missing/extra samples? | **No** | |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** | |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** | |
| #11 Container label(s) legible and intact? | **Yes** | |
| #12 Samples in proper container/ bottle? | **Yes** | |
| #13 Samples properly preserved? | **Yes** | |
| #14 Sample container(s) intact? | **Yes** | |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** | |
| #16 All samples received within hold time? | **Yes** | |
| #17 Subcontract of sample(s)? | **Yes** | Subbed to Xenco Midland. |
| #18 Water VOC samples have zero headspace? | **N/A** | |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 07/19/2019

**Checklist reviewed by:** Jessica Kramer Date: 07/22/2019

Jessica Kramer

# Analytical Report 640965

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU DI #163 H**

**31-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)

31-OCT-19

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

Reference: XENCO Report No(s): **640965**
**JRU DI #163 H**
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) 640965. 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. 640965 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 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| SS001 | S | 10-23-19 16:15 | 0.5 ft | 640965-001 |
| SS002 | S | 10-23-19 16:20 | 0.5 ft | 640965-002 |
| SS003 | S | 10-23-19 16:25 | 0.5 ft | 640965-003 |
| SS004 | S | 10-23-19 16:30 | 0.5 ft | 640965-004 |
| SS005 | S | 10-23-19 16:35 | 0.5 ft | 640965-005 |
| SS006 | S | 10-23-19 16:40 | 0.5 ft | 640965-006 |
| SS007 | S | 10-23-19 16:45 | 0.5 ft | 640965-007 |
| SS008 | S | 10-23-19 16:50 | 0.5 ft | 640965-008 |
| SS009 | S | 10-23-19 16:55 | 0.5 ft | 640965-009 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU DI #163 H***

Project ID:
Work Order Number(s): *640965*

Report Date: *31-OCT-19*
Date Received: *10/24/2019*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3105523 Inorganic Anions by EPA 300
Lab Sample ID 640971-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640965-001, -002, -003, -004, -005, -006, -007, -008.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3105953 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 640965-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene, Toluene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640965-001, -002, -003, -004, -006.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 640965-004.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is su; data confirmed by re-analysis.
Samples affected are: 640965-004,640965-006,640965-003.

Batch: LBA-3105954 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 1,4-Difluorobenzene, Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 640965-005.

# Certificate of Analysis Summary 640965

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #163 H

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

**Date Received in Lab:** Thu Oct-24-19 08:51 am
**Report Date:** 31-OCT-19
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 640965-001 | | 640965-002 | | 640965-003 | | 640965-004 | | 640965-005 | | 640965-006 | |
| | *Field Id:* | SS001 | | SS002 | | SS003 | | SS004 | | SS005 | | SS006 | |
| | *Depth:* | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | | 0.5- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Oct-23-19 16:15 | | Oct-23-19 16:20 | | Oct-23-19 16:25 | | Oct-23-19 16:30 | | Oct-23-19 16:35 | | Oct-23-19 16:40 | |
| **BTEX by EPA 8021B SUB: T104704400-19-19** | *Extracted:* | Oct-29-19 09:00 | | Oct-29-19 09:00 | | Oct-29-19 09:00 | | Oct-29-19 09:00 | | Oct-30-19 10:30 | | Oct-29-19 09:00 | |
| | *Analyzed:* | Oct-29-19 12:44 | | Oct-29-19 13:04 | | Oct-29-19 13:24 | | Oct-29-19 13:45 | | Oct-30-19 16:31 | | Oct-29-19 14:25 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | 0.00450 | 0.00201 | 0.00361 | 0.00199 | 4.54 D | 0.199 | 0.0697 | 0.00200 | 4.07 D | 0.401 |
| Toluene | | 0.0114 | 0.00198 | 0.0954 | 0.00201 | 0.319 | 0.00199 | 0.389 | 0.00199 | 1.63 D | 0.200 | 68.9 D | 0.401 |
| Ethylbenzene | | 0.0113 | 0.00198 | 0.0360 | 0.00201 | 0.228 | 0.00199 | 12.9 D | 0.199 | 0.904 D | 0.200 | 25.3 D | 0.401 |
| m,p-Xylenes | | 0.0454 | 0.00396 | 0.139 | 0.00402 | 0.775 | 0.00398 | 48.3 D | 0.398 | 3.63 D | 0.399 | 91.7 D | 0.802 |
| o-Xylene | | 0.0157 | 0.00198 | 0.0408 | 0.00201 | 0.315 | 0.00199 | 15.5 D | 0.199 | 1.40 D | 0.200 | 32.9 D | 0.401 |
| Total Xylenes | | 0.0611 | 0.00198 | 0.180 | 0.00201 | 1.09 | 0.00199 | 63.8 | 0.199 | 5.03 | 0.200 | 125 | 0.401 |
| Total BTEX | | 0.0838 | 0.00198 | 0.316 | 0.00201 | 1.64 | 0.00199 | 81.6 | 0.00199 | 7.63 | 0.00200 | 223 | 0.401 |
| **Chloride by EPA 300 SUB: T104704400-19-19** | *Extracted:* | Oct-25-19 15:45 | | Oct-25-19 15:45 | | Oct-25-19 15:45 | | Oct-25-19 15:45 | | Oct-25-19 15:45 | | Oct-25-19 15:45 | |
| | *Analyzed:* | Oct-25-19 16:30 | | Oct-25-19 16:56 | | Oct-25-19 17:03 | | Oct-25-19 17:09 | | Oct-25-19 17:29 | | Oct-25-19 17:36 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 74.2 | 5.04 | 5340 | 49.6 | 12500 | 100 | 14200 | 99.8 | 9400 | 49.5 | 10800 | 99.0 |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | *Extracted:* | Oct-25-19 17:00 | | Oct-25-19 17:00 | | Oct-25-19 17:00 | | Oct-25-19 17:00 | | Oct-25-19 17:00 | | Oct-25-19 17:00 | |
| | *Analyzed:* | Oct-25-19 20:50 | | Oct-25-19 21:46 | | Oct-25-19 22:04 | | Oct-26-19 08:18 | | Oct-25-19 22:42 | | Oct-26-19 08:36 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <49.8 | 49.8 | 442 | 49.9 | 2150 | 250 | 644 | 49.9 | 3900 | 250 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <49.8 | 49.8 | 2230 | 49.9 | 6580 | 250 | 2900 | 49.9 | 8620 | 250 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <49.8 | 49.8 | 248 | 49.9 | 1090 | 250 | 274 | 49.9 | 1020 | 250 |
| Total GRO-DRO | | <49.9 | 49.9 | <49.8 | 49.8 | 2670 | 49.9 | 8730 | 250 | 3540 | 49.9 | 12500 | 250 |
| Total TPH | | <49.9 | 49.9 | <49.8 | 49.8 | 2920 | 49.9 | 9820 | 250 | 3820 | 49.9 | 13500 | 250 |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 640965

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU DI #163 H

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

**Date Received in Lab:** Thu Oct-24-19 08:51 am
**Report Date:** 31-OCT-19
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 640965-007 | | 640965-008 | | 640965-009 | | | | |
| | ***Field Id:*** | SS007 | | SS008 | | SS009 | | | | |
| | ***Depth:*** | 0.5- ft | | 0.5- ft | | 0.5- ft | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | | | |
| | ***Sampled:*** | Oct-23-19 16:45 | | Oct-23-19 16:50 | | Oct-23-19 16:55 | | | | |
| **BTEX by EPA 8021B SUB: T104704400-19-19** | ***Extracted:*** | Oct-30-19 10:30 | | Oct-30-19 10:30 | | Oct-30-19 10:30 | | | | |
| | ***Analyzed:*** | Oct-30-19 16:51 | | Oct-30-19 17:11 | | Oct-30-19 17:31 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Benzene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | | | |
| Toluene | | 0.0150 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | | | |
| m,p-Xylenes | | 0.0220 | 0.00400 | 0.00718 | 0.00403 | <0.00397 | 0.00397 | | | |
| o-Xylene | | 0.00786 | 0.00200 | <0.00202 | 0.00202 | <0.00198 | 0.00198 | | | |
| Total Xylenes | | 0.0299 | 0.00200 | 0.00718 | 0.00202 | <0.00198 | 0.00198 | | | |
| Total BTEX | | 0.0449 | 0.00200 | 0.00718 | 0.00202 | <0.00198 | 0.00198 | | | |
| **Chloride by EPA 300 SUB: T104704400-19-19** | ***Extracted:*** | Oct-25-19 15:45 | | Oct-25-19 15:45 | | Oct-28-19 11:25 | | | | |
| | ***Analyzed:*** | Oct-25-19 17:43 | | Oct-25-19 17:49 | | Oct-28-19 15:04 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Chloride | | 39.0 | 24.8 | 9.38 | 5.04 | 10.2 | 5.00 | | | |
| **TPH by SW8015 Mod SUB: T104704400-19-19** | ***Extracted:*** | Oct-25-19 17:00 | | Oct-25-19 17:00 | | Oct-25-19 17:00 | | | | |
| | ***Analyzed:*** | Oct-25-19 23:19 | | Oct-25-19 23:38 | | Oct-25-19 23:57 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | | | |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | | | |
| Total GRO-DRO | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | | | |
| Total TPH | | <50.0 | 50.0 | <49.9 | 49.9 | <50.0 | 50.0 | | | |

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



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS001** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-001 | Date Collected: | 10.23.19 16.15 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **74.2** | 5.04 | mg/kg | 10.25.19 16.30 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.25.19 20.50 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.25.19 20.50 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.25.19 20.50 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.25.19 20.50 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.25.19 20.50 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 100 | % | 70-135 | 10.25.19 20.50 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 10.25.19 20.50 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS001** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-001 | Date Collected: | 10.23.19 16.15 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.29.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3105953 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 10.29.19 12.44 | U | 1 |
| **Toluene** | 108-88-3 | **0.0114** | 0.00198 | mg/kg | 10.29.19 12.44 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0113** | 0.00198 | mg/kg | 10.29.19 12.44 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0454** | 0.00396 | mg/kg | 10.29.19 12.44 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0157** | 0.00198 | mg/kg | 10.29.19 12.44 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0611** | 0.00198 | mg/kg | 10.29.19 12.44 | | 1 |
| **Total BTEX** | | **0.0838** | 0.00198 | mg/kg | 10.29.19 12.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 10.29.19 12.44 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 10.29.19 12.44 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS002** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-002 | Date Collected: | 10.23.19 16.20 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5340** | 49.6 | mg/kg | 10.25.19 16.56 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 10.25.19 21.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 10.25.19 21.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 10.25.19 21.46 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 10.25.19 21.46 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 10.25.19 21.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 10.25.19 21.46 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 10.25.19 21.46 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS002** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-002 | Date Collected: | 10.23.19 16.20 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.29.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3105953 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.00450** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |
| **Toluene** | 108-88-3 | **0.0954** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0360** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.139** | 0.00402 | mg/kg | 10.29.19 13.04 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0408** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.180** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |
| **Total BTEX** | | **0.316** | 0.00201 | mg/kg | 10.29.19 13.04 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 10.29.19 13.04 | |
| 4-Bromofluorobenzene | 460-00-4 | 124 | % | 70-130 | 10.29.19 13.04 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS003** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-003 | Date Collected: | 10.23.19 16.25 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12500** | 100 | mg/kg | 10.25.19 17.03 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **442** | 49.9 | mg/kg | 10.25.19 22.04 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2230** | 49.9 | mg/kg | 10.25.19 22.04 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **248** | 49.9 | mg/kg | 10.25.19 22.04 | | 1 |
| **Total GRO-DRO** | PHC628 | **2670** | 49.9 | mg/kg | 10.25.19 22.04 | | 1 |
| **Total TPH** | PHC635 | **2920** | 49.9 | mg/kg | 10.25.19 22.04 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 120 | % | 70-135 | 10.25.19 22.04 | |
| o-Terphenyl | 84-15-1 | 124 | % | 70-135 | 10.25.19 22.04 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS003** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-003 | Date Collected: | 10.23.19 16.25 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.29.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3105953 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.00361** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |
| **Toluene** | 108-88-3 | **0.319** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.228** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.775** | 0.00398 | mg/kg | 10.29.19 13.24 | | 1 |
| **o-Xylene** | 95-47-6 | **0.315** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |
| **Total Xylenes** | 1330-20-7 | **1.09** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |
| **Total BTEX** | | **1.64** | 0.00199 | mg/kg | 10.29.19 13.24 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 107 | % | 70-130 | 10.29.19 13.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 265 | % | 70-130 | 10.29.19 13.24 | ** |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS004** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-004 | Date Collected: | 10.23.19 16.30 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **14200** | 99.8 | mg/kg | 10.25.19 17.09 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **2150** | 250 | mg/kg | 10.26.19 08.18 | | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **6580** | 250 | mg/kg | 10.26.19 08.18 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **1090** | 250 | mg/kg | 10.26.19 08.18 | | 5 |
| **Total GRO-DRO** | PHC628 | **8730** | 250 | mg/kg | 10.26.19 08.18 | | 5 |
| **Total TPH** | PHC635 | **9820** | 250 | mg/kg | 10.26.19 08.18 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 10.26.19 08.18 | |
| o-Terphenyl | 84-15-1 | 114 | % | 70-135 | 10.26.19 08.18 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS004** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-004 | Date Collected: | 10.23.19 16.30 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.29.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3105953 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **4.54** | 0.199 | mg/kg | 10.29.19 20.05 | D | 100 |
| **Toluene** | 108-88-3 | **0.389** | 0.00199 | mg/kg | 10.29.19 13.45 | | 1 |
| **Ethylbenzene** | 100-41-4 | **12.9** | 0.199 | mg/kg | 10.29.19 20.05 | D | 100 |
| **m,p-Xylenes** | 179601-23-1 | **48.3** | 0.398 | mg/kg | 10.29.19 20.05 | D | 100 |
| **o-Xylene** | 95-47-6 | **15.5** | 0.199 | mg/kg | 10.29.19 20.05 | D | 100 |
| **Total Xylenes** | 1330-20-7 | **63.8** | 0.199 | mg/kg | 10.29.19 20.05 | | 100 |
| **Total BTEX** | | **81.6** | 0.00199 | mg/kg | 10.29.19 20.05 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 753 | % | 70-130 | 10.29.19 13.45 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 151 | % | 70-130 | 10.29.19 13.45 | ** |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS005** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-005 | Date Collected: | 10.23.19 16.35 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9400** | 49.5 | mg/kg | 10.25.19 17.29 | | 10 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **644** | 49.9 | mg/kg | 10.25.19 22.42 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **2900** | 49.9 | mg/kg | 10.25.19 22.42 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **274** | 49.9 | mg/kg | 10.25.19 22.42 | | 1 |
| **Total GRO-DRO** | PHC628 | **3540** | 49.9 | mg/kg | 10.25.19 22.42 | | 1 |
| **Total TPH** | PHC635 | **3820** | 49.9 | mg/kg | 10.25.19 22.42 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 10.25.19 22.42 | |
| o-Terphenyl | 84-15-1 | 84 | % | 70-135 | 10.25.19 22.42 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS005** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-005 | Date Collected: | 10.23.19 16.35 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.30.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3105954 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.0697** | 0.00200 | mg/kg | 10.30.19 16.31 | | 1 |
| **Toluene** | 108-88-3 | **1.63** | 0.200 | mg/kg | 10.31.19 09.59 | D | 100 |
| **Ethylbenzene** | 100-41-4 | **0.904** | 0.200 | mg/kg | 10.31.19 09.59 | D | 100 |
| **m,p-Xylenes** | 179601-23-1 | **3.63** | 0.399 | mg/kg | 10.31.19 09.59 | D | 100 |
| **o-Xylene** | 95-47-6 | **1.40** | 0.200 | mg/kg | 10.31.19 09.59 | D | 100 |
| **Total Xylenes** | 1330-20-7 | **5.03** | 0.200 | mg/kg | 10.31.19 09.59 | | 100 |
| **Total BTEX** | | **7.63** | 0.00200 | mg/kg | 10.31.19 09.59 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 413 | % | 70-130 | 10.30.19 16.31 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 131 | % | 70-130 | 10.30.19 16.31 | ** |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS006** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-006 | Date Collected: | 10.23.19 16.40 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10800** | 99.0 | mg/kg | 10.25.19 17.36 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **3900** | 250 | mg/kg | 10.26.19 08.36 | | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **8620** | 250 | mg/kg | 10.26.19 08.36 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **1020** | 250 | mg/kg | 10.26.19 08.36 | | 5 |
| **Total GRO-DRO** | PHC628 | **12500** | 250 | mg/kg | 10.26.19 08.36 | | 5 |
| **Total TPH** | PHC635 | **13500** | 250 | mg/kg | 10.26.19 08.36 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 10.26.19 08.36 | |
| o-Terphenyl | 84-15-1 | 112 | % | 70-135 | 10.26.19 08.36 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS006** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-006 | Date Collected: | 10.23.19 16.40 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.29.19 09.00 | Basis: | Wet Weight |
| Seq Number: | 3105953 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **4.07** | 0.401 | mg/kg | 10.30.19 17.51 | D | 200 |
| **Toluene** | 108-88-3 | **68.9** | 0.401 | mg/kg | 10.30.19 17.51 | D | 200 |
| **Ethylbenzene** | 100-41-4 | **25.3** | 0.401 | mg/kg | 10.30.19 17.51 | D | 200 |
| **m,p-Xylenes** | 179601-23-1 | **91.7** | 0.802 | mg/kg | 10.30.19 17.51 | D | 200 |
| **o-Xylene** | 95-47-6 | **32.9** | 0.401 | mg/kg | 10.30.19 17.51 | D | 200 |
| **Total Xylenes** | 1330-20-7 | **125** | 0.401 | mg/kg | 10.30.19 17.51 | | 200 |
| **Total BTEX** | | **223** | 0.401 | mg/kg | 10.30.19 17.51 | | 200 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 123 | % | 70-130 | 10.29.19 14.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 707 | % | 70-130 | 10.29.19 14.25 | ** |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS007** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-007 | Date Collected: | 10.23.19 16.45 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **39.0** | 24.8 | mg/kg | 10.25.19 17.43 | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.25.19 23.19 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.25.19 23.19 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.25.19 23.19 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.25.19 23.19 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.25.19 23.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 98 | % | 70-135 | 10.25.19 23.19 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 10.25.19 23.19 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS007** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-007 | Date Collected: | 10.23.19 16.45 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.30.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3105954 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 10.30.19 16.51 | U | 1 |
| **Toluene** | 108-88-3 | **0.0150** | 0.00200 | mg/kg | 10.30.19 16.51 | | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 10.30.19 16.51 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0220** | 0.00400 | mg/kg | 10.30.19 16.51 | | 1 |
| **o-Xylene** | 95-47-6 | **0.00786** | 0.00200 | mg/kg | 10.30.19 16.51 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0299** | 0.00200 | mg/kg | 10.30.19 16.51 | | 1 |
| **Total BTEX** | | **0.0449** | 0.00200 | mg/kg | 10.30.19 16.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 10.30.19 16.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 122 | % | 70-130 | 10.30.19 16.51 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS008** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-008 | Date Collected: | 10.23.19 16.50 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.25.19 15.45 | Basis: | Wet Weight |
| Seq Number: | 3105523 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9.38** | 5.04 | mg/kg | 10.25.19 17.49 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 10.25.19 23.38 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 10.25.19 23.38 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 10.25.19 23.38 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 10.25.19 23.38 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 10.25.19 23.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 10.25.19 23.38 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 10.25.19 23.38 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS008** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-008 | Date Collected: | 10.23.19 16.50 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.30.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3105954 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 10.30.19 17.11 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 10.30.19 17.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 10.30.19 17.11 | U | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.00718** | 0.00403 | mg/kg | 10.30.19 17.11 | | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 10.30.19 17.11 | U | 1 |
| **Total Xylenes** | 1330-20-7 | **0.00718** | 0.00202 | mg/kg | 10.30.19 17.11 | | 1 |
| **Total BTEX** | | **0.00718** | 0.00202 | mg/kg | 10.30.19 17.11 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 70-130 | 10.30.19 17.11 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.30.19 17.11 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS009** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-009 | Date Collected: | 10.23.19 16.55 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | CHE | | | % Moisture: | |
| Analyst: | CHE | Date Prep: | 10.28.19 11.25 | Basis: | Wet Weight |
| Seq Number: | 3105644 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **10.2** | 5.00 | mg/kg | 10.28.19 15.04 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DVM | | | % Moisture: | |
| Analyst: | ARM | Date Prep: | 10.25.19 17.00 | Basis: | Wet Weight |
| Seq Number: | 3105539 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 10.25.19 23.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 10.25.19 23.57 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 10.25.19 23.57 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 10.25.19 23.57 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 10.25.19 23.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 97 | % | 70-135 | 10.25.19 23.57 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 10.25.19 23.57 | |

# Certificate of Analytical Results 640965

## LT Environmental, Inc., Arvada, CO

JRU DI #163 H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **SS009** | Matrix: | Soil | Date Received: | 10.24.19 08.51 |
| Lab Sample Id: | 640965-009 | Date Collected: | 10.23.19 16.55 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | KTL | | | % Moisture: | |
| Analyst: | KTL | Date Prep: | 10.30.19 10.30 | Basis: | Wet Weight |
| Seq Number: | 3105954 | | | SUB: | T104704400-19-19 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 10.30.19 17.31 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 10.30.19 17.31 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 10.30.19 17.31 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 10.30.19 17.31 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

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

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

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

+ NELAC certification not offered for this compound.

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

# QC Summary 640965



## LT Environmental, Inc.

JRU DI #163 H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105523 — Matrix: Solid — Date Prep: 10.25.19
MB Sample Id: 7688928-1-BLK — LCS Sample Id: 7688928-1-BKS — LCSD Sample Id: 7688928-1-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 | 256 | 102 | 90-110 | 0 | 20 | mg/kg | 10.25.19 16:16 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105644 — Matrix: Solid — Date Prep: 10.28.19
MB Sample Id: 7688995-1-BLK — LCS Sample Id: 7688995-1-BKS — LCSD Sample Id: 7688995-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 243 | 97 | 245 | 98 | 90-110 | 1 | 20 | mg/kg | 10.28.19 12:09 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105523 — Matrix: Soil — Date Prep: 10.25.19
Parent Sample Id: 640965-001 — MS Sample Id: 640965-001 S — MSD Sample Id: 640965-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 74.2 | 252 | 353 | 111 | 348 | 109 | 90-110 | 1 | 20 | mg/kg | 10.25.19 16:36 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105523 — Matrix: Soil — Date Prep: 10.25.19
Parent Sample Id: 640971-001 — MS Sample Id: 640971-001 S — MSD Sample Id: 640971-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 170 | 253 | 433 | 104 | 435 | 105 | 90-110 | 0 | 20 | mg/kg | 10.25.19 18:09 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105644 — Matrix: Soil — Date Prep: 10.28.19
Parent Sample Id: 640979-091 — MS Sample Id: 640979-091 S — MSD Sample Id: 640979-091 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 15.0 | 249 | 255 | 96 | 261 | 99 | 90-110 | 2 | 20 | mg/kg | 10.28.19 12:27 | |

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 640965



## LT Environmental, Inc.

JRU DI #163 H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105644 — Matrix: Soil — Date Prep: 10.28.19
Parent Sample Id: 641117-008 — MS Sample Id: 641117-008 S — MSD Sample Id: 641117-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1140 | 199 | 1320 | 90 | 1330 | 95 | 90-110 | 1 | 20 | mg/kg | 10.28.19 13:48 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105539 — Matrix: Solid — Date Prep: 10.25.19
MB Sample Id: 7688958-1-BLK — LCS Sample Id: 7688958-1-BKS — LCSD Sample Id: 7688958-1-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 | 1040 | 104 | 1050 | 105 | 70-135 | 1 | 20 | mg/kg | 10.25.19 20:12 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 970 | 97 | 981 | 98 | 70-135 | 1 | 20 | mg/kg | 10.25.19 20:12 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 103 | | 119 | | 118 | | 70-135 | % | 10.25.19 20:12 |
| o-Terphenyl | 102 | | 103 | | 106 | | 70-135 | % | 10.25.19 20:12 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105539 — Matrix: Solid — Date Prep: 10.25.19
MB Sample Id: 7688958-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 10.25.19 19:53 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3105539 — Matrix: Soil — Date Prep: 10.25.19
Parent Sample Id: 640965-001 — MS Sample Id: 640965-001 S — MSD Sample Id: 640965-001 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 | 1020 | 102 | 1040 | 104 | 70-135 | 2 | 20 | mg/kg | 10.25.19 21:08 | |
| Diesel Range Organics (DRO) | <15.0 | 999 | 958 | 96 | 973 | 97 | 70-135 | 2 | 20 | mg/kg | 10.25.19 21:08 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | | 119 | | 70-135 | % | 10.25.19 21:08 |
| o-Terphenyl | 108 | | 105 | | 70-135 | % | 10.25.19 21:08 |

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

# QC Summary 640965

## LT Environmental, Inc.

JRU DI #163 H

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B

Seq Number: 3105953 — Matrix: Solid — Date Prep: 10.29.19

MB Sample Id: 7689129-1-BLK — LCS Sample Id: 7689129-1-BKS — LCSD Sample Id: 7689129-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.102 | 102 | 0.113 | 113 | 70-130 | 10 | 35 | mg/kg | 10.29.19 10:45 | |
| Toluene | <0.00200 | 0.100 | 0.101 | 101 | 0.108 | 108 | 70-130 | 7 | 35 | mg/kg | 10.29.19 10:45 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.105 | 105 | 0.109 | 109 | 70-130 | 4 | 35 | mg/kg | 10.29.19 10:45 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.214 | 107 | 0.222 | 111 | 70-130 | 4 | 35 | mg/kg | 10.29.19 10:45 | |
| o-Xylene | <0.00200 | 0.100 | 0.105 | 105 | 0.110 | 110 | 70-130 | 5 | 35 | mg/kg | 10.29.19 10:45 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 95 | | 96 | | 98 | | 70-130 | % | 10.29.19 10:45 |
| 4-Bromofluorobenzene | 93 | | 103 | | 103 | | 70-130 | % | 10.29.19 10:45 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B

Seq Number: 3105954 — Matrix: Solid — Date Prep: 10.29.19

MB Sample Id: 7689168-1-BLK — LCS Sample Id: 7689168-1-BKS — LCSD Sample Id: 7689168-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.101 | 101 | 0.106 | 106 | 70-130 | 5 | 35 | mg/kg | 10.30.19 08:02 | |
| Toluene | <0.00200 | 0.100 | 0.0948 | 95 | 0.103 | 103 | 70-130 | 8 | 35 | mg/kg | 10.30.19 08:02 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0953 | 95 | 0.105 | 105 | 70-130 | 10 | 35 | mg/kg | 10.30.19 08:02 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.193 | 97 | 0.213 | 107 | 70-130 | 10 | 35 | mg/kg | 10.30.19 08:02 | |
| o-Xylene | <0.00200 | 0.100 | 0.0969 | 97 | 0.109 | 109 | 70-130 | 12 | 35 | mg/kg | 10.30.19 08:02 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 95 | | 97 | | 97 | | 70-130 | % | 10.30.19 08:02 |
| 4-Bromofluorobenzene | 98 | | 100 | | 111 | | 70-130 | % | 10.30.19 08:02 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B

Seq Number: 3105953 — Matrix: Soil — Date Prep: 10.29.19

Parent Sample Id: 640965-001 — MS Sample Id: 640965-001 S — MSD Sample Id: 640965-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0992 | 0.0824 | 83 | 0.0615 | 62 | 70-130 | 29 | 35 | mg/kg | 10.29.19 11:25 | X |
| Toluene | 0.0114 | 0.0992 | 0.0813 | 70 | 0.0622 | 51 | 70-130 | 27 | 35 | mg/kg | 10.29.19 11:25 | X |
| Ethylbenzene | 0.0113 | 0.0992 | 0.0785 | 68 | 0.0563 | 45 | 70-130 | 33 | 35 | mg/kg | 10.29.19 11:25 | X |
| m,p-Xylenes | 0.0454 | 0.198 | 0.172 | 64 | 0.128 | 41 | 70-130 | 29 | 35 | mg/kg | 10.29.19 11:25 | X |
| o-Xylene | 0.0157 | 0.0992 | 0.0820 | 67 | 0.0604 | 45 | 70-130 | 30 | 35 | mg/kg | 10.29.19 11:25 | X |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 102 | | 100 | | 70-130 | % | 10.29.19 11:25 |
| 4-Bromofluorobenzene | 102 | | 104 | | 70-130 | % | 10.29.19 11:25 |

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 640965



## LT Environmental, Inc.

JRU DI #163 H

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3105954 Matrix: Soil Date Prep: 10.29.19

Parent Sample Id: 641420-001 MS Sample Id: 641420-001 S MSD Sample Id: 641420-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0992 | 0.0796 | 80 | 0.0780 | 78 | 70-130 | 2 | 35 | mg/kg | 10.30.19 08:42 | |
| Toluene | <0.00198 | 0.0992 | 0.0733 | 74 | 0.0748 | 75 | 70-130 | 2 | 35 | mg/kg | 10.30.19 08:42 | |
| Ethylbenzene | <0.00198 | 0.0992 | 0.0698 | 70 | 0.0707 | 71 | 70-130 | 1 | 35 | mg/kg | 10.30.19 08:42 | |
| m,p-Xylenes | <0.00397 | 0.198 | 0.142 | 72 | 0.147 | 74 | 70-130 | 3 | 35 | mg/kg | 10.30.19 08:42 | |
| o-Xylene | <0.00198 | 0.0992 | 0.0730 | 74 | 0.0758 | 76 | 70-130 | 4 | 35 | mg/kg | 10.30.19 08:42 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 102 | | 70-130 | % | 10.30.19 08:42 |
| 4-Bromofluorobenzene | 108 | | 120 | | 70-130 | % | 10.30.19 08:42 |

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

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# Chain of Custody

Work Order No: 646965

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

Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | klo@heav.com, dmoir@heav.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: | JRU DI #163H | Turn Around | |
| Project Number: | | Routine ☑ | |
| Project Location | | Rush: | |
| Sampler's Name: | Spencer Lo | Due Date: | |
| PO #: | | Quote #: | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | Yes (No) |
| Temperature (°C): | 1.4 | Thermometer ID | T-NM-007 |
| Received Intact: | (Yes) No | Correction Factor: | -0.2 |
| Cooler Custody Seals: | Yes ☐ N/A | Total Containers: | 9 |
| Sample Custody Seals: | Yes ☐ N/A | | |

**ANALYSIS REQUEST**

Preservative Codes
MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chlorides (EPA 300) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | SS01 | S | 10/23/19 | 1615 | 0.5' | 1 | X | X | X | |
| | SS02 | | | 1620 | 0.5' | | | | | |
| | SS03 | | | 1625 | 0.5' | | | | | |
| | SS04 | | | 1630 | 0.5' | | | | | |
| | SS05 | | | 1635 | 0.5' | | | | | |
| | SS06 | | | 1640 | 0.5 | | | | | |
| | SS07 | | | 1645 | 0.5' | | | | | |
| | SS08 | | | 1650 | 0.5' | | | | | |
| | SS09 | | | 1655 | 0.5 | | | | | |

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

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

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company 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 |
|---|---|---|---|---|---|
| Spencer Lo | Kalei Jennings | 10-24-19 8:00AM | Kalei Jennings | | 10/24/19 8:5 |
| | | | | | |
| | | | | | |

Revised Date 082019 Rev. 2019.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
Page 30 of 34

# Inter-Office Shipment





**IOS Number** **50786**

Date/Time: 10/24/19 13:37
Created by: Martha Castro
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 776810437200
E-Mail: jessica.kramer@xenco.com

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|---|---|---|---|---|---|---|---|---|---|---|
| 640965-001 | S | SS001 | 10/23/19 16:15 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-001 | S | SS001 | 10/23/19 16:15 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-001 | S | SS001 | 10/23/19 16:15 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-002 | S | SS002 | 10/23/19 16:20 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-002 | S | SS002 | 10/23/19 16:20 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-002 | S | SS002 | 10/23/19 16:20 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-003 | S | SS003 | 10/23/19 16:25 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-003 | S | SS003 | 10/23/19 16:25 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-003 | S | SS003 | 10/23/19 16:25 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-004 | S | SS004 | 10/23/19 16:30 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-004 | S | SS004 | 10/23/19 16:30 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-004 | S | SS004 | 10/23/19 16:30 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-005 | S | SS005 | 10/23/19 16:35 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-005 | S | SS005 | 10/23/19 16:35 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-005 | S | SS005 | 10/23/19 16:35 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-006 | S | SS006 | 10/23/19 16:40 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-006 | S | SS006 | 10/23/19 16:40 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-006 | S | SS006 | 10/23/19 16:40 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-007 | S | SS007 | 10/23/19 16:45 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-007 | S | SS007 | 10/23/19 16:45 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-007 | S | SS007 | 10/23/19 16:45 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-008 | S | SS008 | 10/23/19 16:50 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |
| 640965-008 | S | SS008 | 10/23/19 16:50 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-008 | S | SS008 | 10/23/19 16:50 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |
| 640965-009 | S | SS009 | 10/23/19 16:55 | SW8015MOD_NM | TPH by SW8015 Mod | 10/30/19 | 11/06/19 | JKR | GRO-DRO PHCC10C28 PI | |

# Inter-Office Shipment





**IOS Number** **50786**

Date/Time: 10/24/19 13:37
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Martha Castro
Delivery Priority:
Air Bill No.: 776810437200

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 640965-009 | S | SS009 | 10/23/19 16:55 | SW8021B | BTEX by EPA 8021B | 10/30/19 | 11/06/19 | JKR | BR4FBZ BZ BZME EBZ X | |
| 640965-009 | S | SS009 | 10/23/19 16:55 | E300_CL | Chloride by EPA 300 | 10/30/19 | 04/20/20 | JKR | CL | |

**Inter Office Shipment or Sample Comments:**

Relinquished By: Martha Castro

Date Relinquished: 10/24/2019

Received By: Brianna Teel

Date Received: 10/25/2019 11:36

Cooler Temperature: 0.1

# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

**Sent To:** Midland

**IOS #:** 50786

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

**Sent By:** Martha Castro **Date Sent:** 10/24/2019 01:37 PM

**Received By:** Brianna Teel **Date Received:** 10/25/2019 11:36 AM

| Sample Receipt Checklist | | Comments |
|---|---|---|
| #1 *Temperature of cooler(s)? | .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: 10/25/2019

Brianna Teel

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 10/24/2019 08:51:00 AM

**Work Order #:** 640965

**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? | **No** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Any missing/extra samples? | **No** |
| #9 Chain of Custody signed when relinquished/ received? | **Yes** |
| #10 Chain of Custody agrees with sample labels/matrix? | **Yes** |
| #11 Container label(s) legible and intact? | **Yes** |
| #12 Samples in proper container/ bottle? | **Yes** |
| #13 Samples properly preserved? | **Yes** |
| #14 Sample container(s) intact? | **Yes** |
| #15 Sufficient sample amount for indicated test(s)? | **Yes** |
| #16 All samples received within hold time? | **Yes** |
| #17 Subcontract of sample(s)? | **Yes** |
| #18 Water VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Martha Castro Date: 10/24/2019

**Checklist reviewed by:** Jessica Kramer Date: 10/24/2019

Jessica Kramer

# Analytical Report 650230

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU - DI1- 163H**

**012919259**

**27-JAN-20**

Collected By: Client




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

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

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

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

27-JAN-20

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

Reference: XENCO Report No(s): **650230**
**JRU - DI1- 163H**
Project Address: Eddy

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 650230. 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. 650230 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 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH01 | S | 01-23-20 11:43 | 0.5 ft | 650230-001 |
| BH01A | S | 01-23-20 11:49 | 2 ft | 650230-002 |
| BH01B | S | 01-23-20 12:55 | 7.5 ft | 650230-003 |
| BH02 | S | 01-23-20 13:56 | 0.5 ft | 650230-004 |
| BH02A | S | 01-23-20 14:00 | 2 ft | 650230-005 |
| BH02B | S | 01-23-20 14:20 | 6.5 ft | 650230-006 |
| BH03 | S | 01-23-20 14:32 | 0.5 ft | 650230-007 |
| BH03A | S | 01-23-20 14:37 | 2 ft | 650230-008 |
| BH03B | S | 01-23-20 15:17 | 8 ft | 650230-009 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU - DI1- 163H***

Project ID: *012919259*
Work Order Number(s): *650230*

Report Date: *27-JAN-20*
Date Received: *01/24/2020*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3114405 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114410 Chloride by EPA 300
Lab Sample ID 650230-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 650230-001, -002, -003, -004, -005, -006, -007, -008, -009.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3114415 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114477 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 650230-007.

# Certificate of Analysis Summary 650230

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU - DI1- 163H

**Project Id:** 012919259
**Contact:** Dan Moir
**Project Location:** Eddy

**Date Received in Lab:** Fri Jan-24-20 09:40 am
**Report Date:** 27-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 650230-001 | | 650230-002 | | 650230-003 | | 650230-004 | | 650230-005 | | 650230-006 | |
| | *Field Id:* | BH01 | | BH01A | | BH01B | | BH02 | | BH02A | | BH02B | |
| | *Depth:* | 0.5- ft | | 2- ft | | 7.5- ft | | 0.5- ft | | 2- ft | | 6.5- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Jan-23-20 11:43 | | Jan-23-20 11:49 | | Jan-23-20 12:55 | | Jan-23-20 13:56 | | Jan-23-20 14:00 | | Jan-23-20 14:20 | |
| **BTEX by EPA 8021B** | *Extracted:* | Jan-24-20 11:00 | | Jan-24-20 11:00 | | Jan-24-20 15:00 | | Jan-24-20 15:00 | | Jan-24-20 15:00 | | Jan-24-20 15:00 | |
| | *Analyzed:* | Jan-25-20 12:03 | | Jan-25-20 11:43 | | Jan-25-20 12:24 | | Jan-25-20 12:44 | | Jan-25-20 13:05 | | Jan-25-20 03:18 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | 1.16 | 0.200 | 0.0332 | 0.0200 | <0.0102 | 0.0102 | 0.137 | 0.0196 | 0.0212 | 0.0201 | 0.0107 | 0.00980 |
| Toluene | | 21.2 | 0.200 | 1.35 | 0.0200 | 0.0936 | 0.0204 | 2.53 | 0.0196 | 0.220 | 0.0201 | 0.0691 | 0.0196 |
| Ethylbenzene | | 9.05 | 0.200 | 0.887 | 0.0200 | 0.0611 | 0.0204 | 1.78 | 0.0196 | 0.126 | 0.0201 | 0.0521 | 0.0196 |
| m,p-Xylenes | | 29.5 | 0.399 | 3.00 | 0.0401 | 0.218 | 0.0408 | 6.14 | 0.0392 | 0.460 | 0.0402 | 0.203 | 0.0392 |
| o-Xylene | | 11.6 | 0.200 | 1.54 | 0.0200 | 0.116 | 0.0204 | 3.07 | 0.0196 | 0.249 | 0.0201 | 0.112 | 0.0196 |
| Total Xylenes | | 41.1 | 0.200 | 4.54 | 0.0200 | 0.334 | 0.0204 | 9.21 | 0.0196 | 0.709 | 0.0201 | 0.315 | 0.0196 |
| Total BTEX | | 72.5 | 0.200 | 6.81 | 0.0200 | 0.489 | 0.0102 | 13.7 | 0.0196 | 1.08 | 0.0201 | 0.447 | 0.00980 |
| **Chloride by EPA 300** | *Extracted:* | Jan-24-20 16:12 | | Jan-24-20 16:12 | | Jan-24-20 16:12 | | Jan-24-20 16:12 | | Jan-24-20 16:12 | | Jan-24-20 16:12 | |
| | *Analyzed:* | Jan-25-20 10:10 | | Jan-25-20 10:15 | | Jan-25-20 10:20 | | Jan-25-20 10:35 | | Jan-25-20 10:40 | | Jan-25-20 10:55 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 8230 D | 198 | 9310 | 200 | 2650 | 200 | 13700 | 202 | 13500 D | 200 | 235 | 10.1 |
| **TPH by SW8015 Mod** | *Extracted:* | Jan-24-20 13:50 | | Jan-24-20 13:50 | | Jan-24-20 13:50 | | Jan-24-20 13:50 | | Jan-24-20 13:50 | | Jan-24-20 13:50 | |
| | *Analyzed:* | Jan-24-20 21:10 | | Jan-24-20 21:31 | | Jan-24-20 21:31 | | Jan-24-20 21:51 | | Jan-24-20 21:51 | | Jan-24-20 22:10 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | 2020 | 50.3 | 212 | 49.8 | <50.3 | 50.3 | 368 | 50.3 | <50.1 | 50.1 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | 3770 | 50.3 | 1330 | 49.8 | 748 | 50.3 | 1990 | 50.3 | 207 | 50.1 | 161 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | 432 | 50.3 | 107 | 49.8 | 115 | 50.3 | 168 | 50.3 | <50.1 | 50.1 | <50.1 | 50.1 |
| Total GRO-DRO | | 5790 | 50.3 | 1540 | 49.8 | 748 | 50.3 | 2360 | 50.3 | 207 | 50.1 | 161 | 50.1 |
| Total TPH | | 6220 | 50.3 | 1650 | 49.8 | 863 | 50.3 | 2530 | 50.3 | 207 | 50.1 | 161 | 50.1 |

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



Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 650230

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU - DI1- 163H

**Project Id:** 012919259
**Contact:** Dan Moir
**Project Location:** Eddy

**Date Received in Lab:** Fri Jan-24-20 09:40 am
**Report Date:** 27-JAN-20
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 650230-007 | | 650230-008 | | 650230-009 | | | | |
| | ***Field Id:*** | BH03 | | BH03A | | BH03B | | | | |
| | ***Depth:*** | 0.5- ft | | 2- ft | | 8- ft | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | | | |
| | ***Sampled:*** | Jan-23-20 14:32 | | Jan-23-20 14:37 | | Jan-23-20 15:17 | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Jan-24-20 15:00 | | Jan-24-20 15:00 | | Jan-24-20 15:00 | | | | |
| | ***Analyzed:*** | Jan-25-20 13:25 | | Jan-25-20 03:38 | | Jan-25-20 01:56 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Benzene | | 0.0755 | 0.0497 | <0.00201 | 0.00201 | <0.00200 | 0.00200 | | | |
| Toluene | | 0.883 | 0.199 | 0.00754 | 0.00201 | <0.00200 | 0.00200 | | | |
| Ethylbenzene | | 1.14 | 0.199 | 0.0108 | 0.00201 | <0.00200 | 0.00200 | | | |
| m,p-Xylenes | | 5.16 | 0.398 | 0.0213 | 0.00402 | <0.00400 | 0.00400 | | | |
| o-Xylene | | 4.51 | 0.199 | 0.0480 | 0.00201 | <0.00200 | 0.00200 | | | |
| Total Xylenes | | 9.67 | 0.199 | 0.0693 | 0.00201 | <0.00200 | 0.00200 | | | |
| Total BTEX | | 11.8 | 0.0497 | 0.0876 | 0.00201 | <0.00200 | 0.00200 | | | |
| **Chloride by EPA 300** | ***Extracted:*** | Jan-24-20 16:12 | | Jan-24-20 16:12 | | Jan-24-20 16:12 | | | | |
| | ***Analyzed:*** | Jan-25-20 11:00 | | Jan-25-20 11:05 | | Jan-25-20 11:10 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Chloride | | 5400 D | 200 | 182 | 10.0 | 22.1 | 10.0 | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | Jan-24-20 13:50 | | Jan-24-20 13:50 | | Jan-24-20 13:50 | | | | |
| | ***Analyzed:*** | Jan-27-20 09:47 | | Jan-24-20 22:30 | | Jan-24-20 22:51 | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | |
| Gasoline Range Hydrocarbons (GRO) | | 1950 | 249 | <50.2 | 50.2 | <50.1 | 50.1 | | | |
| Diesel Range Organics (DRO) | | 18300 | 249 | 202 | 50.2 | <50.1 | 50.1 | | | |
| Motor Oil Range Hydrocarbons (MRO) | | 1750 | 249 | <50.2 | 50.2 | <50.1 | 50.1 | | | |
| Total GRO-DRO | | 20300 | 249 | 202 | 50.2 | <50.1 | 50.1 | | | |
| Total TPH | | 22000 | 249 | 202 | 50.2 | <50.1 | 50.1 | | | |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-001 | Date Collected: | 01.23.20 11.43 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **8230** | 198 | mg/kg | 01.25.20 13.16 | D | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **2020** | 50.3 | mg/kg | 01.24.20 21.10 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **3770** | 50.3 | mg/kg | 01.24.20 21.10 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **432** | 50.3 | mg/kg | 01.24.20 21.10 | | 1 |
| **Total GRO-DRO** | PHC628 | **5790** | 50.3 | mg/kg | 01.24.20 21.10 | | 1 |
| **Total TPH** | PHC635 | **6220** | 50.3 | mg/kg | 01.24.20 21.10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 130 | % | 70-135 | 01.24.20 21.10 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 01.24.20 21.10 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-001 | Date Collected: | 01.23.20 11.43 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 11.00 | Basis: | Wet Weight |
| Seq Number: | 3114405 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **1.16** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |
| **Toluene** | 108-88-3 | **21.2** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |
| **Ethylbenzene** | 100-41-4 | **9.05** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |
| **m,p-Xylenes** | 179601-23-1 | **29.5** | 0.399 | mg/kg | 01.25.20 12.03 | | 100 |
| **o-Xylene** | 95-47-6 | **11.6** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |
| **Total Xylenes** | 1330-20-7 | **41.1** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |
| **Total BTEX** | | **72.5** | 0.200 | mg/kg | 01.25.20 12.03 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 94 | % | 70-130 | 01.25.20 12.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 70-130 | 01.25.20 12.03 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-002 | Date Collected: | 01.23.20 11.49 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **9310** | 200 | mg/kg | 01.25.20 10.15 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **212** | 49.8 | mg/kg | 01.24.20 21.31 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1330** | 49.8 | mg/kg | 01.24.20 21.31 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **107** | 49.8 | mg/kg | 01.24.20 21.31 | | 1 |
| **Total GRO-DRO** | PHC628 | **1540** | 49.8 | mg/kg | 01.24.20 21.31 | | 1 |
| **Total TPH** | PHC635 | **1650** | 49.8 | mg/kg | 01.24.20 21.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 118 | % | 70-135 | 01.24.20 21.31 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 01.24.20 21.31 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-002 | Date Collected: | 01.23.20 11.49 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 11.00 | Basis: | Wet Weight |
| Seq Number: | 3114405 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.0332** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |
| **Toluene** | 108-88-3 | **1.35** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.887** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **3.00** | 0.0401 | mg/kg | 01.25.20 11.43 | | 1 |
| **o-Xylene** | 95-47-6 | **1.54** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |
| **Total Xylenes** | 1330-20-7 | **4.54** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |
| **Total BTEX** | | **6.81** | 0.0200 | mg/kg | 01.25.20 11.43 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 70-130 | 01.25.20 11.43 | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 01.25.20 11.43 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-003 | Date Collected: | 01.23.20 12.55 | Sample Depth: | 7.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2650** | 200 | mg/kg | 01.25.20 10.20 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 01.24.20 21.31 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **748** | 50.3 | mg/kg | 01.24.20 21.31 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **115** | 50.3 | mg/kg | 01.24.20 21.31 | | 1 |
| **Total GRO-DRO** | PHC628 | **748** | 50.3 | mg/kg | 01.24.20 21.31 | | 1 |
| **Total TPH** | PHC635 | **863** | 50.3 | mg/kg | 01.24.20 21.31 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 104 | % | 70-135 | 01.24.20 21.31 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 01.24.20 21.31 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-003 | Date Collected: | 01.23.20 12.55 | Sample Depth: | 7.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.0102 | 0.0102 | mg/kg | 01.25.20 12.24 | U | 1 |
| **Toluene** | 108-88-3 | **0.0936** | 0.0204 | mg/kg | 01.25.20 12.24 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0611** | 0.0204 | mg/kg | 01.25.20 12.24 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.218** | 0.0408 | mg/kg | 01.25.20 12.24 | | 1 |
| **o-Xylene** | 95-47-6 | **0.116** | 0.0204 | mg/kg | 01.25.20 12.24 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.334** | 0.0204 | mg/kg | 01.25.20 12.24 | | 1 |
| **Total BTEX** | | **0.489** | 0.0102 | mg/kg | 01.25.20 12.24 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.25.20 12.24 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 70-130 | 01.25.20 12.24 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-004 | Date Collected: | 01.23.20 13.56 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13700** | 202 | mg/kg | 01.25.20 10.35 | | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **368** | 50.3 | mg/kg | 01.24.20 21.51 | | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **1990** | 50.3 | mg/kg | 01.24.20 21.51 | | 1 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **168** | 50.3 | mg/kg | 01.24.20 21.51 | | 1 |
| **Total GRO-DRO** | PHC628 | **2360** | 50.3 | mg/kg | 01.24.20 21.51 | | 1 |
| **Total TPH** | PHC635 | **2530** | 50.3 | mg/kg | 01.24.20 21.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 01.24.20 21.51 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 01.24.20 21.51 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-004 | Date Collected: | 01.23.20 13.56 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.137** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |
| **Toluene** | 108-88-3 | **2.53** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |
| **Ethylbenzene** | 100-41-4 | **1.78** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **6.14** | 0.0392 | mg/kg | 01.25.20 12.44 | | 1 |
| **o-Xylene** | 95-47-6 | **3.07** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |
| **Total Xylenes** | 1330-20-7 | **9.21** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |
| **Total BTEX** | | **13.7** | 0.0196 | mg/kg | 01.25.20 12.44 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 115 | % | 70-130 | 01.25.20 12.44 | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 01.25.20 12.44 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-005 | Date Collected: | 01.23.20 14.00 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13500** | 200 | mg/kg | 01.25.20 13.21 | D | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.24.20 21.51 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **207** | 50.1 | mg/kg | 01.24.20 21.51 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.24.20 21.51 | U | 1 |
| **Total GRO-DRO** | PHC628 | **207** | 50.1 | mg/kg | 01.24.20 21.51 | | 1 |
| **Total TPH** | PHC635 | **207** | 50.1 | mg/kg | 01.24.20 21.51 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 107 | % | 70-135 | 01.24.20 21.51 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 01.24.20 21.51 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-005 | Date Collected: | 01.23.20 14.00 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.0212** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |
| **Toluene** | 108-88-3 | **0.220** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.126** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.460** | 0.0402 | mg/kg | 01.25.20 13.05 | | 1 |
| **o-Xylene** | 95-47-6 | **0.249** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.709** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |
| **Total BTEX** | | **1.08** | 0.0201 | mg/kg | 01.25.20 13.05 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.25.20 13.05 | |
| 4-Bromofluorobenzene | 460-00-4 | 127 | % | 70-130 | 01.25.20 13.05 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-006 | Date Collected: | 01.23.20 14.20 | Sample Depth: | 6.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **235** | 10.1 | mg/kg | 01.25.20 10.55 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.24.20 22.10 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **161** | 50.1 | mg/kg | 01.24.20 22.10 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.24.20 22.10 | U | 1 |
| **Total GRO-DRO** | PHC628 | **161** | 50.1 | mg/kg | 01.24.20 22.10 | | 1 |
| **Total TPH** | PHC635 | **161** | 50.1 | mg/kg | 01.24.20 22.10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 99 | % | 70-135 | 01.24.20 22.10 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 01.24.20 22.10 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-006 | Date Collected: | 01.23.20 14.20 | Sample Depth: | 6.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.0107** | 0.00980 | mg/kg | 01.25.20 03.18 | | 1 |
| **Toluene** | 108-88-3 | **0.0691** | 0.0196 | mg/kg | 01.25.20 03.18 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0521** | 0.0196 | mg/kg | 01.25.20 03.18 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.203** | 0.0392 | mg/kg | 01.25.20 03.18 | | 1 |
| **o-Xylene** | 95-47-6 | **0.112** | 0.0196 | mg/kg | 01.25.20 03.18 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.315** | 0.0196 | mg/kg | 01.25.20 03.18 | | 1 |
| **Total BTEX** | | **0.447** | 0.00980 | mg/kg | 01.25.20 03.18 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 99 | % | 70-130 | 01.25.20 03.18 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.25.20 03.18 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-007 | Date Collected: | 01.23.20 14.32 | Sample Depth: | 0.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **5400** | 200 | mg/kg | 01.25.20 13.27 | D | 20 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons (GRO)** | PHC610 | **1950** | 249 | mg/kg | 01.27.20 09.47 | | 5 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **18300** | 249 | mg/kg | 01.27.20 09.47 | | 5 |
| **Motor Oil Range Hydrocarbons (MRO)** | PHCG2835 | **1750** | 249 | mg/kg | 01.27.20 09.47 | | 5 |
| **Total GRO-DRO** | PHC628 | **20300** | 249 | mg/kg | 01.27.20 09.47 | | 5 |
| **Total TPH** | PHC635 | **22000** | 249 | mg/kg | 01.27.20 09.47 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 137 | % | 70-135 | 01.27.20 09.47 | ** |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 01.27.20 09.47 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-007 | Date Collected: | 01.23.20 14.32 | Sample Depth: | 0.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Benzene** | 71-43-2 | **0.0755** | 0.0497 | mg/kg | 01.25.20 13.25 | | 100 |
| **Toluene** | 108-88-3 | **0.883** | 0.199 | mg/kg | 01.25.20 13.25 | | 100 |
| **Ethylbenzene** | 100-41-4 | **1.14** | 0.199 | mg/kg | 01.25.20 13.25 | | 100 |
| **m,p-Xylenes** | 179601-23-1 | **5.16** | 0.398 | mg/kg | 01.25.20 13.25 | | 100 |
| **o-Xylene** | 95-47-6 | **4.51** | 0.199 | mg/kg | 01.25.20 13.25 | | 100 |
| **Total Xylenes** | 1330-20-7 | **9.67** | 0.199 | mg/kg | 01.25.20 13.25 | | 100 |
| **Total BTEX** | | **11.8** | 0.0497 | mg/kg | 01.25.20 13.25 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 01.25.20 13.25 | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 01.25.20 13.25 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-008 | Date Collected: | 01.23.20 14.37 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **182** | 10.0 | mg/kg | 01.25.20 11.05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.24.20 22.30 | U | 1 |
| **Diesel Range Organics (DRO)** | C10C28DRO | **202** | 50.2 | mg/kg | 01.24.20 22.30 | | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.24.20 22.30 | U | 1 |
| **Total GRO-DRO** | PHC628 | **202** | 50.2 | mg/kg | 01.24.20 22.30 | | 1 |
| **Total TPH** | PHC635 | **202** | 50.2 | mg/kg | 01.24.20 22.30 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 103 | % | 70-135 | 01.24.20 22.30 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 01.24.20 22.30 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-008 | Date Collected: | 01.23.20 14.37 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.25.20 03.38 | U | 1 |
| **Toluene** | 108-88-3 | **0.00754** | 0.00201 | mg/kg | 01.25.20 03.38 | | 1 |
| **Ethylbenzene** | 100-41-4 | **0.0108** | 0.00201 | mg/kg | 01.25.20 03.38 | | 1 |
| **m,p-Xylenes** | 179601-23-1 | **0.0213** | 0.00402 | mg/kg | 01.25.20 03.38 | | 1 |
| **o-Xylene** | 95-47-6 | **0.0480** | 0.00201 | mg/kg | 01.25.20 03.38 | | 1 |
| **Total Xylenes** | 1330-20-7 | **0.0693** | 0.00201 | mg/kg | 01.25.20 03.38 | | 1 |
| **Total BTEX** | | **0.0876** | 0.00201 | mg/kg | 01.25.20 03.38 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.25.20 03.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 106 | % | 70-130 | 01.25.20 03.38 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-009 | Date Collected: | 01.23.20 15.17 | Sample Depth: | 8 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 16.12 | Basis: | Wet Weight |
| Seq Number: | 3114410 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **22.1** | 10.0 | mg/kg | 01.25.20 11.10 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 13.50 | Basis: | Wet Weight |
| Seq Number: | 3114477 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.24.20 22.51 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.24.20 22.51 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.24.20 22.51 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.24.20 22.51 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.24.20 22.51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 102 | % | 70-135 | 01.24.20 22.51 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 01.24.20 22.51 | |

# Certificate of Analytical Results 650230

## LT Environmental, Inc., Arvada, CO

JRU - DI1- 163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03B** | Matrix: | Soil | Date Received: | 01.24.20 09.40 |
| Lab Sample Id: | 650230-009 | Date Collected: | 01.23.20 15.17 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 01.25.20 01.56 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.56 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 01.25.20 01.56 | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 01.25.20 01.56 | |

# 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 650230



## LT Environmental, Inc.

JRU - DI1- 163H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114410 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695159-1-BLK — LCS Sample Id: 7695159-1-BKS — LCSD Sample Id: 7695159-1-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 | 246 | 98 | 247 | 99 | 90-110 | 0 | 20 | mg/kg | 01.25.20 08:57 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114410 — Matrix: Soil — Date Prep: 01.24.20
Parent Sample Id: 650197-009 — MS Sample Id: 650197-009 S — MSD Sample Id: 650197-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 672 | 199 | 881 | 105 | 886 | 108 | 90-110 | 1 | 20 | mg/kg | 01.25.20 09:12 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114410 — Matrix: Soil — Date Prep: 01.24.20
Parent Sample Id: 650230-003 — MS Sample Id: 650230-003 S — MSD Sample Id: 650230-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 2650 | 200 | 2780 | 65 | 2780 | 65 | 90-110 | 0 | 20 | mg/kg | 01.25.20 10:25 | X |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114477 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695142-1-BLK — LCS Sample Id: 7695142-1-BKS — LCSD Sample Id: 7695142-1-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 | 999 | 100 | 70-135 | 7 | 35 | mg/kg | 01.24.20 18:50 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1040 | 104 | 1100 | 110 | 70-135 | 6 | 35 | mg/kg | 01.24.20 18:50 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 79 | | 115 | | 105 | | 70-135 | % | 01.24.20 18:50 |
| o-Terphenyl | 77 | | 102 | | 91 | | 70-135 | % | 01.24.20 18:50 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114477 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695142-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.24.20 18:50 | |

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

# QC Summary 650230



## LT Environmental, Inc.

JRU - DI1- 163H

**Analytical Method:** TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3114477 | Matrix: Soil | Date Prep: 01.24.20
Parent Sample Id: 650186-013 | MS Sample Id: 650186-013 S | MSD Sample Id: 650186-013 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.2 | 1000 | 1020 | 102 | 1020 | 102 | 70-135 | 0 | 35 | mg/kg | 01.24.20 19:30 | |
| Diesel Range Organics (DRO) | <50.2 | 1000 | 974 | 97 | 999 | 100 | 70-135 | 3 | 35 | mg/kg | 01.24.20 19:30 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 123 | | 122 | | 70-135 | % | 01.24.20 19:30 |
| o-Terphenyl | 103 | | 106 | | 70-135 | % | 01.24.20 19:30 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114405 | Matrix: Solid | Date Prep: 01.24.20
MB Sample Id: 7695152-1-BLK | LCS Sample Id: 7695152-1-BKS | LCSD Sample Id: 7695152-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.106 | 106 | 0.102 | 102 | 70-130 | 4 | 35 | mg/kg | 01.24.20 13:14 | |
| Toluene | <0.00200 | 0.100 | 0.102 | 102 | 0.0995 | 100 | 70-130 | 2 | 35 | mg/kg | 01.24.20 13:14 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.100 | 100 | 0.0976 | 98 | 71-129 | 2 | 35 | mg/kg | 01.24.20 13:14 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.204 | 102 | 0.200 | 100 | 70-135 | 2 | 35 | mg/kg | 01.24.20 13:14 | |
| o-Xylene | <0.00200 | 0.100 | 0.100 | 100 | 0.0992 | 99 | 71-133 | 1 | 35 | mg/kg | 01.24.20 13:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 102 | | 102 | | 70-130 | % | 01.24.20 13:14 |
| 4-Bromofluorobenzene | 97 | | 95 | | 97 | | 70-130 | % | 01.24.20 13:14 |

**Analytical Method:** BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114415 | Matrix: Solid | Date Prep: 01.24.20
MB Sample Id: 7695153-1-BLK | LCS Sample Id: 7695153-1-BKS | LCSD Sample Id: 7695153-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.101 | 101 | 0.0996 | 100 | 70-130 | 1 | 35 | mg/kg | 01.25.20 00:14 | |
| Toluene | <0.00200 | 0.100 | 0.0977 | 98 | 0.0946 | 95 | 70-130 | 3 | 35 | mg/kg | 01.25.20 00:14 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0940 | 94 | 0.0899 | 90 | 71-129 | 4 | 35 | mg/kg | 01.25.20 00:14 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.193 | 97 | 0.183 | 92 | 70-135 | 5 | 35 | mg/kg | 01.25.20 00:14 | |
| o-Xylene | <0.00200 | 0.100 | 0.0962 | 96 | 0.0923 | 92 | 71-133 | 4 | 35 | mg/kg | 01.25.20 00:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 102 | | 104 | | 70-130 | % | 01.25.20 00:14 |
| 4-Bromofluorobenzene | 96 | | 95 | | 99 | | 70-130 | % | 01.25.20 00:14 |

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

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

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

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



Final 1.000

# QC Summary 650230



## LT Environmental, Inc.

JRU - DI1- 163H

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3114405 Matrix: Soil Date Prep: 01.24.20

Parent Sample Id: 650186-001 MS Sample Id: 650186-001 S MSD Sample Id: 650186-001 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 | 0.115 | 115 | 0.108 | 108 | 70-130 | 6 | 35 | mg/kg | 01.24.20 13:54 | |
| Toluene | <0.00200 | 0.100 | 0.110 | 110 | 0.104 | 104 | 70-130 | 6 | 35 | mg/kg | 01.24.20 13:54 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.105 | 105 | 0.0976 | 98 | 71-129 | 7 | 35 | mg/kg | 01.24.20 13:54 | |
| m,p-Xylenes | <0.00401 | 0.200 | 0.215 | 108 | 0.200 | 100 | 70-135 | 7 | 35 | mg/kg | 01.24.20 13:54 | |
| o-Xylene | <0.00200 | 0.100 | 0.107 | 107 | 0.0997 | 100 | 71-133 | 7 | 35 | mg/kg | 01.24.20 13:54 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 104 | | 103 | | 70-130 | % | 01.24.20 13:54 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 | % | 01.24.20 13:54 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3114415 Matrix: Soil Date Prep: 01.24.20

Parent Sample Id: 650230-009 MS Sample Id: 650230-009 S MSD Sample Id: 650230-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0996 | 0.112 | 112 | 0.0885 | 89 | 70-130 | 23 | 35 | mg/kg | 01.25.20 00:55 | |
| Toluene | <0.00199 | 0.0996 | 0.107 | 107 | 0.0807 | 81 | 70-130 | 28 | 35 | mg/kg | 01.25.20 00:55 | |
| Ethylbenzene | 0.000980 | 0.0996 | 0.101 | 100 | 0.0726 | 72 | 71-129 | 33 | 35 | mg/kg | 01.25.20 00:55 | |
| m,p-Xylenes | 0.00333 | 0.199 | 0.206 | 102 | 0.148 | 72 | 70-135 | 33 | 35 | mg/kg | 01.25.20 00:55 | |
| o-Xylene | 0.00167 | 0.0996 | 0.103 | 102 | 0.0757 | 74 | 71-133 | 31 | 35 | mg/kg | 01.25.20 00:55 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 103 | | 70-130 | % | 01.25.20 00:55 |
| 4-Bromofluorobenzene | 96 | | 100 | | 70-130 | % | 01.25.20 00:55 |

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

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

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

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



Final 1.000

Page 1079 of 1119

# 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: 450230

Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-DI1-163H | Turn Around | |
| Project Number: | 12919259 | Routine | ☑ |
| P.O. Number: | Eddy | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 1.0 | Thermometer ID | | |
| Received Intact: | (Yes) No | | TNM007 | |
| Cooler Custody Seals: | Yes (No) N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes (No) N/A | Total Containers: | 9 | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8=8021) | Chloride (EPA 300.0) | Work Order Notes |
|---|---|---|---|---|---|---|---|---|---|
| BH01 | s | 1/23/2020 | 11:43 | 0.5' | 1 | x | x | x | TAT starts the day received by the lab, if received by 4:30pm |
| BH01A | s | 1/23/2020 | 11:49 | 2' | 1 | x | x | x | discrete |
| BH01B | s | 1/23/2020 | 12:55 | 7.5' | 1 | x | x | x | discrete |
| BH02 | s | 1/23/2020 | 13:56 | 0.5' | 1 | x | x | x | discrete |
| BH02A | s | 1/23/2020 | 14:00 | 2' | 1 | x | x | x | discrete |
| BH02B | s | 1/23/2020 | 14:20 | 6.5' | 1 | x | x | x | discrete |
| BH03 | s | 1/23/2020 | 14:32 | 0.5' | 1 | x | x | x | discrete |
| BH03A | s | 1/23/2020 | 14:37 | 2' | 1 | x | x | x | discrete |
| BH03B | s | 1/23/2020 | 15:14 | 8' | 1 | x | x | x | discrete |

ANALYSIS REQUEST

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

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | 1 | 01/24/20 09:40 | 4 | | |
| 2 | 2 | | 5 | | |
| 3 | 3 | | | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
Page 29 of 30

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01.24.2020 09.40.00 AM

**Work Order #:** 650230

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

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

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01.24.2020

**Checklist reviewed by:** Jessica Kramer Date: 01.24.2020

Jessica Kramer

# Analytical Report 650282

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**JRU -DI1-163H**

**012919259**

**29-JAN-20**

Collected By: Client




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

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

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

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

29-JAN-20

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

Reference: XENCO Report No(s): **650282**
**JRU -DI1-163H**
Project Address: Eddy

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 650282. 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. 650282 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 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH04 | S | 01-24-20 09:51 | 1 ft | 650282-001 |
| BH04A | S | 01-24-20 10:03 | 4 ft | 650282-002 |
| BH04B | S | 01-24-20 10:18 | 8 ft | 650282-003 |
| BH05 | S | 01-24-20 10:26 | 1 ft | 650282-004 |
| BH05A | S | 01-24-20 10:35 | 4 ft | 650282-005 |
| BH05B | S | 01-24-20 10:53 | 8 ft | 650282-006 |
| BH06 | S | 01-24-20 11:03 | 1 ft | 650282-007 |
| BH06A | S | 01-24-20 11:22 | 4 ft | 650282-008 |
| BH06B | S | 01-24-20 11:45 | 7.5 ft | 650282-009 |
| BH07 | S | 01-24-20 12:42 | 1 ft | 650282-010 |
| BH07A | S | 01-24-20 12:55 | 4 ft | 650282-011 |
| BH07B | S | 01-24-20 13:18 | 8 ft | 650282-012 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***
***Project Name: JRU -DI1-163H***

Project ID: *012919259*
Work Order Number(s): *650282*

Report Date: *29-JAN-20*
Date Received: *01/24/2020*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**
Batch: LBA-3114406 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114415 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 650282

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU -DI1-163H

**Project Id:** 012919259
**Contact:** Dan Moir
**Project Location:** Eddy

**Date Received in Lab:** Fri Jan-24-20 04:19 pm
**Report Date:** 29-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 650282-001 | | 650282-002 | | 650282-003 | | 650282-004 | | 650282-005 | | 650282-006 | |
| | *Field Id:* | BH04 | | BH04A | | BH04B | | BH05 | | BH05A | | BH05B | |
| | *Depth:* | 1- ft | | 4- ft | | 8- ft | | 1- ft | | 4- ft | | 8- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Jan-24-20 09:51 | | Jan-24-20 10:03 | | Jan-24-20 10:18 | | Jan-24-20 10:26 | | Jan-24-20 10:35 | | Jan-24-20 10:53 | |
| **BTEX by EPA 8021B** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | Jan-24-20 19:18 | | Jan-24-20 19:18 | |
| | *Analyzed:* | Jan-25-20 08:38 | | Jan-25-20 08:58 | | Jan-25-20 09:19 | | Jan-25-20 09:39 | | Jan-24-20 23:32 | | Jan-24-20 23:53 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Toluene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Ethylbenzene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| m,p-Xylenes | | <0.00396 | 0.00396 | <0.00402 | 0.00402 | <0.00402 | 0.00402 | <0.00404 | 0.00404 | <0.00398 | 0.00398 | <0.00403 | 0.00403 |
| o-Xylene | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total Xylenes | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| Total BTEX | | <0.00198 | 0.00198 | <0.00201 | 0.00201 | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00199 | 0.00199 | <0.00202 | 0.00202 |
| **Chloride by EPA 300** | *Extracted:* | Jan-27-20 19:15 | | Jan-27-20 19:15 | | Jan-27-20 19:15 | | Jan-27-20 19:15 | | Jan-27-20 19:15 | | Jan-28-20 09:20 | |
| | *Analyzed:* | Jan-28-20 12:22 | | Jan-28-20 12:27 | | Jan-28-20 12:32 | | Jan-28-20 12:37 | | Jan-28-20 12:42 | | Jan-28-20 13:11 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 13.8 | 9.98 | <10.0 | 10.0 | <10.1 | 10.1 | 43.5 | 10.0 | 12.7 | 10.1 | 19.6 | 9.98 |
| **TPH by SW8015 Mod** | *Extracted:* | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | |
| | *Analyzed:* | Jan-25-20 05:46 | | Jan-25-20 06:06 | | Jan-25-20 06:06 | | Jan-25-20 06:25 | | Jan-25-20 06:25 | | Jan-25-20 06:45 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Total GRO-DRO | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |
| Total TPH | | <49.9 | 49.9 | <50.0 | 50.0 | <49.9 | 49.9 | <49.8 | 49.8 | <50.2 | 50.2 | <50.1 | 50.1 |

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

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

Jessica Kramer
Project Assistant

# Certificate of Analysis Summary 650282

## LT Environmental, Inc., Arvada, CO

## Project Name: JRU -DI1-163H

**Project Id:** 012919259
**Contact:** Dan Moir
**Project Location:** Eddy

**Date Received in Lab:** Fri Jan-24-20 04:19 pm
**Report Date:** 29-JAN-20
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 650282-007 | | 650282-008 | | 650282-009 | | 650282-010 | | 650282-011 | | 650282-012 | |
| | *Field Id:* | BH06 | | BH06A | | BH06B | | BH07 | | BH07A | | BH07B | |
| | *Depth:* | 1- ft | | 4- ft | | 7.5- ft | | 1- ft | | 4- ft | | 8- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | Jan-24-20 11:03 | | Jan-24-20 11:22 | | Jan-24-20 11:45 | | Jan-24-20 12:42 | | Jan-24-20 12:55 | | Jan-24-20 13:18 | |
| **BTEX by EPA 8021B** | *Extracted:* | Jan-24-20 19:18 | | Jan-24-20 19:18 | | Jan-24-20 19:18 | | Jan-24-20 19:18 | | Jan-24-20 19:18 | | Jan-24-20 19:18 | |
| | *Analyzed:* | Jan-25-20 00:13 | | Jan-25-20 00:34 | | Jan-25-20 00:54 | | Jan-25-20 01:14 | | Jan-25-20 01:35 | | Jan-24-20 23:12 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Toluene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00402 | 0.00402 | <0.00404 | 0.00404 | <0.00399 | 0.00399 | <0.00399 | 0.00399 | <0.00402 | 0.00402 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00201 | 0.00201 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00201 | 0.00201 | <0.00200 | 0.00200 |
| **Chloride by EPA 300** | *Extracted:* | Jan-28-20 09:20 | | Jan-28-20 09:20 | | Jan-28-20 09:20 | | Jan-28-20 09:20 | | Jan-28-20 09:20 | | Jan-28-20 09:20 | |
| | *Analyzed:* | Jan-28-20 13:26 | | Jan-28-20 13:31 | | Jan-28-20 13:35 | | Jan-28-20 13:40 | | Jan-28-20 13:45 | | Jan-28-20 13:50 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | <10.1 | 10.1 | <10.0 | 10.0 | <10.0 | 10.0 | 18.4 | 9.98 | <10.0 | 10.0 | <10.0 | 10.0 |
| **TPH by SW8015 Mod** | *Extracted:* | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | | Jan-24-20 18:00 | |
| | *Analyzed:* | Jan-25-20 07:04 | | Jan-25-20 07:04 | | Jan-25-20 07:24 | | Jan-25-20 07:24 | | Jan-25-20 07:44 | | Jan-25-20 07:44 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.1 | 50.1 | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.1 | 50.1 | <50.0 | 50.0 |
| Diesel Range Organics (DRO) | | <50.1 | 50.1 | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.1 | 50.1 | <50.0 | 50.0 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.1 | 50.1 | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.1 | 50.1 | <50.0 | 50.0 |
| Total GRO-DRO | | <50.1 | 50.1 | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.1 | 50.1 | <50.0 | 50.0 |
| Total TPH | | <50.1 | 50.1 | <49.9 | 49.9 | <50.0 | 50.0 | <50.2 | 50.2 | <50.1 | 50.1 | <50.0 | 50.0 |

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



Jessica Kramer
Project Assistant

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-001 | Date Collected: | 01.24.20 09.51 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.27.20 19.15 | Basis: | Wet Weight |
| Seq Number: | 3114725 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **13.8** | 9.98 | mg/kg | 01.28.20 12.22 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.25.20 05.46 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.25.20 05.46 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.25.20 05.46 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.25.20 05.46 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.25.20 05.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 110 | % | 70-135 | 01.25.20 05.46 | |
| o-Terphenyl | 84-15-1 | 102 | % | 70-135 | 01.25.20 05.46 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-001 | Date Collected: | 01.24.20 09.51 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 01.25.20 08.38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 01.25.20 08.38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.25.20 08.38 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.25.20 08.38 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-002 | Date Collected: | 01.24.20 10.03 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.27.20 19.15 | Basis: | Wet Weight |
| Seq Number: | 3114725 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.28.20 12.27 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.25.20 06.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.25.20 06.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.25.20 06.06 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.25.20 06.06 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.25.20 06.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.25.20 06.06 | |
| o-Terphenyl | 84-15-1 | 108 | % | 70-135 | 01.25.20 06.06 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-002 | Date Collected: | 01.24.20 10.03 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.25.20 08.58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.25.20 08.58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 01.25.20 08.58 | |
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.25.20 08.58 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-003 | Date Collected: | 01.24.20 10.18 | Sample Depth: | 8 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.27.20 19.15 | Basis: | Wet Weight |
| Seq Number: | 3114725 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.28.20 12.32 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.25.20 06.06 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.25.20 06.06 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.25.20 06.06 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.25.20 06.06 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.25.20 06.06 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.25.20 06.06 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 01.25.20 06.06 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-003 | Date Collected: | 01.24.20 10.18 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.25.20 09.19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.25.20 09.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 01.25.20 09.19 | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 01.25.20 09.19 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-004 | Date Collected: | 01.24.20 10.26 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.27.20 19.15 | Basis: | Wet Weight |
| Seq Number: | 3114725 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **43.5** | 10.0 | mg/kg | 01.28.20 12.37 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 01.25.20 06.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 01.25.20 06.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 01.25.20 06.25 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 01.25.20 06.25 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 01.25.20 06.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 105 | % | 70-135 | 01.25.20 06.25 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 01.25.20 06.25 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-004 | Date Collected: | 01.24.20 10.26 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 15.00 | Basis: | Wet Weight |
| Seq Number: | 3114415 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.25.20 09.39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.25.20 09.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 103 | % | 70-130 | 01.25.20 09.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 70-130 | 01.25.20 09.39 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-005 | Date Collected: | 01.24.20 10.35 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.27.20 19.15 | Basis: | Wet Weight |
| Seq Number: | 3114725 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **12.7** | 10.1 | mg/kg | 01.28.20 12.42 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.25.20 06.25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.25.20 06.25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.25.20 06.25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.25.20 06.25 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.25.20 06.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.25.20 06.25 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 01.25.20 06.25 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-005 | Date Collected: | 01.24.20 10.35 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 01.24.20 23.32 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 01.24.20 23.32 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 01.24.20 23.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 01.24.20 23.32 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-006 | Date Collected: | 01.24.20 10.53 | Sample Depth: | 8 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **19.6** | 9.98 | mg/kg | 01.28.20 13.11 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.25.20 06.45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.25.20 06.45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.25.20 06.45 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.25.20 06.45 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.25.20 06.45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 112 | % | 70-135 | 01.25.20 06.45 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 01.25.20 06.45 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-006 | Date Collected: | 01.24.20 10.53 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 01.24.20 23.53 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.24.20 23.53 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 01.24.20 23.53 | |
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 01.24.20 23.53 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-007 | Date Collected: | 01.24.20 11.03 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.1 | 10.1 | mg/kg | 01.28.20 13.26 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.25.20 07.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.25.20 07.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.25.20 07.04 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.25.20 07.04 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.25.20 07.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.25.20 07.04 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 01.25.20 07.04 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-007 | Date Collected: | 01.24.20 11.03 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.25.20 00.13 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.25.20 00.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 01.25.20 00.13 | |
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 01.25.20 00.13 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-008 | Date Collected: | 01.24.20 11.22 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.28.20 13.31 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 01.25.20 07.04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 01.25.20 07.04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 01.25.20 07.04 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 01.25.20 07.04 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 01.25.20 07.04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.25.20 07.04 | |
| o-Terphenyl | 84-15-1 | 107 | % | 70-135 | 01.25.20 07.04 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-008 | Date Collected: | 01.24.20 11.22 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 01.25.20 00.34 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 01.25.20 00.34 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 01.25.20 00.34 | |
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 01.25.20 00.34 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-009 | Date Collected: | 01.24.20 11.45 | Sample Depth: | 7.5 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.28.20 13.35 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.25.20 07.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.25.20 07.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.25.20 07.24 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.25.20 07.24 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.25.20 07.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.25.20 07.24 | |
| o-Terphenyl | 84-15-1 | 105 | % | 70-135 | 01.25.20 07.24 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-009 | Date Collected: | 01.24.20 11.45 | Sample Depth: | 7.5 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.25.20 00.54 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.25.20 00.54 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 01.25.20 00.54 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 01.25.20 00.54 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-010 | Date Collected: | 01.24.20 12.42 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **18.4** | 9.98 | mg/kg | 01.28.20 13.40 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 01.25.20 07.24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 01.25.20 07.24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 01.25.20 07.24 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 01.25.20 07.24 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 01.25.20 07.24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 115 | % | 70-135 | 01.25.20 07.24 | |
| o-Terphenyl | 84-15-1 | 113 | % | 70-135 | 01.25.20 07.24 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-010 | Date Collected: | 01.24.20 12.42 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.25.20 01.14 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.25.20 01.14 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 92 | % | 70-130 | 01.25.20 01.14 | |
| 1,4-Difluorobenzene | 540-36-3 | 104 | % | 70-130 | 01.25.20 01.14 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-011 | Date Collected: | 01.24.20 12.55 | Sample Depth: | 4 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.28.20 13.45 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 01.25.20 07.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 01.25.20 07.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 01.25.20 07.44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 01.25.20 07.44 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 01.25.20 07.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 111 | % | 70-135 | 01.25.20 07.44 | |
| o-Terphenyl | 84-15-1 | 106 | % | 70-135 | 01.25.20 07.44 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-011 | Date Collected: | 01.24.20 12.55 | Sample Depth: | 4 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | mg/kg | 01.25.20 01.35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |
| Total BTEX | | <0.00201 | 0.00201 | mg/kg | 01.25.20 01.35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 01.25.20 01.35 | |
| 1,4-Difluorobenzene | 540-36-3 | 109 | % | 70-130 | 01.25.20 01.35 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-012 | Date Collected: | 01.24.20 13.18 | Sample Depth: | 8 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Chloride by EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.28.20 09.20 | Basis: | Wet Weight |
| Seq Number: | 3114737 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <10.0 | 10.0 | mg/kg | 01.28.20 13.50 | U | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 01.24.20 18.00 | Basis: | Wet Weight |
| Seq Number: | 3114501 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 01.25.20 07.44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 01.25.20 07.44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 01.25.20 07.44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 01.25.20 07.44 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 01.25.20 07.44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 114 | % | 70-135 | 01.25.20 07.44 | |
| o-Terphenyl | 84-15-1 | 104 | % | 70-135 | 01.25.20 07.44 | |

# Certificate of Analytical Results 650282

## LT Environmental, Inc., Arvada, CO

JRU -DI1-163H

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07B** | Matrix: | Soil | Date Received: | 01.24.20 16.19 |
| Lab Sample Id: | 650282-012 | Date Collected: | 01.24.20 13.18 | Sample Depth: | 8 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 01.24.20 19.18 | Basis: | Wet Weight |
| Seq Number: | 3114406 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 01.24.20 23.12 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 01.24.20 23.12 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 70-130 | 01.24.20 23.12 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 01.24.20 23.12 | |

# Flagging Criteria

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

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

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

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

**F** RPD exceeded lab control limits.

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

**U** Analyte was not detected.

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

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

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

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

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**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 650282



## LT Environmental, Inc.

JRU -DI1-163H

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114725 — Matrix: Solid — Date Prep: 01.27.20
MB Sample Id: 7695322-1-BLK — LCS Sample Id: 7695322-1-BKS — LCSD Sample Id: 7695322-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 252 | 101 | 253 | 101 | 90-110 | 0 | 20 | mg/kg | 01.28.20 09:20 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114737 — Matrix: Solid — Date Prep: 01.28.20
MB Sample Id: 7695325-1-BLK — LCS Sample Id: 7695325-1-BKS — LCSD Sample Id: 7695325-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 249 | 100 | 249 | 100 | 90-110 | 0 | 20 | mg/kg | 01.28.20 13:01 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114725 — Matrix: Soil — Date Prep: 01.27.20
Parent Sample Id: 650281-005 — MS Sample Id: 650281-005 S — MSD Sample Id: 650281-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3360 | 203 | 3510 | 74 | 3530 | 85 | 90-110 | 1 | 20 | mg/kg | 01.28.20 11:43 | X |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114725 — Matrix: Soil — Date Prep: 01.27.20
Parent Sample Id: 650328-011 — MS Sample Id: 650328-011 S — MSD Sample Id: 650328-011 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3.84 | 200 | 205 | 101 | 202 | 100 | 90-110 | 1 | 20 | mg/kg | 01.28.20 09:35 | |

**Analytical Method:** Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114737 — Matrix: Soil — Date Prep: 01.28.20
Parent Sample Id: 650282-006 — MS Sample Id: 650282-006 S — MSD Sample Id: 650282-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 19.6 | 200 | 215 | 98 | 209 | 95 | 90-110 | 3 | 20 | mg/kg | 01.28.20 13:16 | |

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

# QC Summary 650282



## LT Environmental, Inc.

JRU -DI1-163H

**Analytical Method:** **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3114737 Matrix: Soil Date Prep: 01.28.20
Parent Sample Id: 650481-001 MS Sample Id: 650481-001 S MSD Sample Id: 650481-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1.96 | 198 | 187 | 93 | 182 | 91 | 90-110 | 3 | 20 | mg/kg | 01.28.20 14:24 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3114501 Matrix: Solid Date Prep: 01.24.20
MB Sample Id: 7695250-1-BLK LCS Sample Id: 7695250-1-BKS LCSD Sample Id: 7695250-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 1080 | 108 | 1170 | 117 | 70-135 | 8 | 35 | mg/kg | 01.25.20 04:28 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1040 | 104 | 1160 | 116 | 70-135 | 11 | 35 | mg/kg | 01.25.20 04:28 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 103 | | 115 | | 126 | | 70-135 | % | 01.25.20 04:28 |
| o-Terphenyl | 98 | | 102 | | 111 | | 70-135 | % | 01.25.20 04:28 |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3114501 Matrix: Solid Date Prep: 01.24.20
MB Sample Id: 7695250-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 01.25.20 04:08 | |

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3114501 Matrix: Soil Date Prep: 01.24.20
Parent Sample Id: 650281-005 MS Sample Id: 650281-005 S MSD Sample Id: 650281-005 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <49.9 | 997 | 1060 | 106 | 1060 | 106 | 70-135 | 0 | 35 | mg/kg | 01.25.20 04:47 | |
| Diesel Range Organics (DRO) | <49.9 | 997 | 1030 | 103 | 1020 | 102 | 70-135 | 1 | 35 | mg/kg | 01.25.20 04:47 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 122 | | 128 | | 70-135 | % | 01.25.20 04:47 |
| o-Terphenyl | 113 | | 113 | | 70-135 | % | 01.25.20 04:47 |

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

# QC Summary 650282

## LT Environmental, Inc.

JRU -DI1-163H

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114415 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695153-1-BLK — LCS Sample Id: 7695153-1-BKS — LCSD Sample Id: 7695153-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.101 | 101 | 0.0996 | 100 | 70-130 | 1 | 35 | mg/kg | 01.25.20 00:14 | |
| Toluene | <0.00200 | 0.100 | 0.0977 | 98 | 0.0946 | 95 | 70-130 | 3 | 35 | mg/kg | 01.25.20 00:14 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0940 | 94 | 0.0899 | 90 | 71-129 | 4 | 35 | mg/kg | 01.25.20 00:14 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.193 | 97 | 0.183 | 92 | 70-135 | 5 | 35 | mg/kg | 01.25.20 00:14 | |
| o-Xylene | <0.00200 | 0.100 | 0.0962 | 96 | 0.0923 | 92 | 71-133 | 4 | 35 | mg/kg | 01.25.20 00:14 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 101 | | 102 | | 104 | | 70-130 | % | 01.25.20 00:14 |
| 4-Bromofluorobenzene | 96 | | 95 | | 99 | | 70-130 | % | 01.25.20 00:14 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114406 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695177-1-BLK — LCS Sample Id: 7695177-1-BKS — LCSD Sample Id: 7695177-1-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 | 0.107 | 107 | 0.120 | 120 | 70-130 | 11 | 35 | mg/kg | 01.24.20 21:30 | |
| Toluene | <0.00200 | 0.100 | 0.0982 | 98 | 0.110 | 110 | 70-130 | 11 | 35 | mg/kg | 01.24.20 21:30 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0948 | 95 | 0.107 | 107 | 71-129 | 12 | 35 | mg/kg | 01.24.20 21:30 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.186 | 93 | 0.209 | 105 | 70-135 | 12 | 35 | mg/kg | 01.24.20 21:30 | |
| o-Xylene | <0.00200 | 0.100 | 0.0935 | 94 | 0.105 | 105 | 71-133 | 12 | 35 | mg/kg | 01.24.20 21:30 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 107 | | 106 | | 108 | | 70-130 | % | 01.24.20 21:30 |
| 4-Bromofluorobenzene | 89 | | 90 | | 92 | | 70-130 | % | 01.24.20 21:30 |

**Analytical Method:** BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114415 — Matrix: Soil — Date Prep: 01.24.20
Parent Sample Id: 650230-009 — MS Sample Id: 650230-009 S — MSD Sample Id: 650230-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0996 | 0.112 | 112 | 0.0885 | 89 | 70-130 | 23 | 35 | mg/kg | 01.25.20 00:55 | |
| Toluene | <0.00199 | 0.0996 | 0.107 | 107 | 0.0807 | 81 | 70-130 | 28 | 35 | mg/kg | 01.25.20 00:55 | |
| Ethylbenzene | 0.000980 | 0.0996 | 0.101 | 100 | 0.0726 | 72 | 71-129 | 33 | 35 | mg/kg | 01.25.20 00:55 | |
| m,p-Xylenes | 0.00333 | 0.199 | 0.206 | 102 | 0.148 | 72 | 70-135 | 33 | 35 | mg/kg | 01.25.20 00:55 | |
| o-Xylene | 0.00167 | 0.0996 | 0.103 | 102 | 0.0757 | 74 | 71-133 | 31 | 35 | mg/kg | 01.25.20 00:55 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 103 | | 70-130 | % | 01.25.20 00:55 |
| 4-Bromofluorobenzene | 96 | | 100 | | 70-130 | % | 01.25.20 00:55 |

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 650282

## LT Environmental, Inc.

JRU -DI1-163H

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3114406 Matrix: Soil Date Prep: 01.24.20

Parent Sample Id: 650282-012 MS Sample Id: 650282-012 S MSD Sample Id: 650282-012 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | 0.0992 | 0.103 | 104 | 0.108 | 108 | 70-130 | 5 | 35 | mg/kg | 01.24.20 22:11 | |
| Toluene | <0.00198 | 0.0992 | 0.0940 | 95 | 0.0982 | 99 | 70-130 | 4 | 35 | mg/kg | 01.24.20 22:11 | |
| Ethylbenzene | <0.00198 | 0.0992 | 0.0909 | 92 | 0.0944 | 95 | 71-129 | 4 | 35 | mg/kg | 01.24.20 22:11 | |
| m,p-Xylenes | <0.00397 | 0.198 | 0.178 | 90 | 0.185 | 93 | 70-135 | 4 | 35 | mg/kg | 01.24.20 22:11 | |
| o-Xylene | <0.00198 | 0.0992 | 0.0898 | 91 | 0.0934 | 94 | 71-133 | 4 | 35 | mg/kg | 01.24.20 22:11 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | | 109 | | 70-130 | % | 01.24.20 22:11 |
| 4-Bromofluorobenzene | 95 | | 95 | | 70-130 | % | 01.24.20 22:11 |

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

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# Chain of Custody

Work Order No: 650282

XENCO LABORATORIES

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

www.xenco.com Page 1 of 2

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-DI1-163H | Turn Around | |
| Project Number: | 12919259 | Routine | ☑ |
| P.O. Number: | Eddy | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | (Yes) No | |
| Temperature (°C): | 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: | 12 | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH04 | s | 1/24/2020 | 9:51 | 1' | 1 | x | x | x | discrete |
| BH04A | s | 1/24/2020 | 10:03 | 4' | 1 | x | x | x | discrete |
| BH04B | s | 1/24/2020 | 10:18 | 8' | 1 | x | x | x | discrete |
| BH05 | s | 1/24/2020 | 10:26 | 1' | 1 | x | x | x | discrete |
| BH05A | s | 1/24/2020 | 10:35 | 4' | 1 | x | x | x | discrete |
| BH05B | s | 1/24/2020 | 10:53 | 8' | 1 | x | x | x | discrete |
| BH06 | s | 1/24/2020 | 11:03 | 1' | 1 | x | x | x | discrete |
| BH06A | s | 1/24/2020 | 11:22 | 4' | 1 | x | x | x | discrete |
| BH06B | s | 1/24/2020 | 11:45 | 7.5' | 1 | x | x | x | discrete |
| BH07 | s | 1/24/2020 | 12:42 | 1' | 1 | x | x | x | discrete |

**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 | | 1/24/20 10:19 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

Received by OCD: 12/11/2020 11:30:06 AM
Final 1.000
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# Chain of Custody

Work Order No: 450282

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



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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU-DI1-163H | Turn Around | |
| Project Number: | 12919259 | Routine | ☑ |
| P.O. Number: | Eddy | Rush: | |
| Sampler's Name: | William Mather | Due Date: | |

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) | Work Order Notes / Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| BH07A | s | 1/24/2020 | 12:55 | 4' | 1 | x | x | x | discrete |
| BH07B | s | 1/24/2020 | 13:18 | 8' | 1 | x | x | x | discrete |

ANALYSIS REQUEST

Work Order Notes

TAT starts the day received 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 |
|---|---|---|---|---|---|
| | | 4/24/20 10:19 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |



Received by OCD: 12/11/2020 11:30:06 AM

Final 1.000

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** LT Environmental, Inc.

**Date/ Time Received:** 01.24.2020 04.19.00 PM

**Work Order #:** 650282

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

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

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

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Elizabeth McClellan Date: 01.24.2020

**Checklist reviewed by:** Jessica Kramer Date: 01.28.2020

Jessica Kramer

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505

CONDITIONS

Action 5086

## CONDITIONS OF APPROVAL

| Operator: | OGRID: | Action Number: | Action Type: |
|---|---|---|---|
| XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707 | 5380 | 5086 | C-141 |

| OCD Reviewer | Condition |
|---|---|
| ceads | Groundwater is not encountered during delineation and/or excavation activities. |
| ceads | Each 5-point composite sample will represent an area of no greater than 500 square feet for floor and sidewall samples. |