



LT Environmental, Inc.

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

May 18, 2020

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

**RE: Variance and Closure Request
WPX Energy Permian, LLC
LVP SWD 1
LVP Gathering System Release
Incident ID NRM2008555443
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, LLC (WPX), presents the following Closure Request detailing excavation and soil sampling activities at the LVP Gathering System associated with the LVP SWD 1 (Site) in Unit A, Section 1, Township 23 South, Range 28 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil following an event that resulted in the release of produced water. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, WPX is submitting this Closure Request with application of a variance in an effort to forbear from disturbing a caliche formation barrier that is impractical to excavate and if forcibly fractured, could become a conduit to deeper subsurface impacts.

BACKGROUND

On March 12, 2020, a third-party contractor caused damage to the gathering system, which resulted in the release of approximately 175 barrels (bbl) of produced water to adjacent Right-of-Way (ROW), lease road, and dry wash to the south. Approximately 30 bbl of produced water were recovered via a vacuum truck. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141), which was received by the NMOCD on March 30, 2020 and was assigned Incident ID NRM2008555443. An updated Form C-141 is provided as Attachment 1.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on known aquifer properties and an identified water well. The nearest



permitted water well with depth to water data is United States Geological Survey (USGS) water well 321927104033701, located approximately 1.7 miles west-southwest of the Site. Water well 321927104033701 has a reported depth to water of 19.44 feet bgs. The closest significant watercourse to the Site is an unnamed intermittent stream located approximately 10 feet west of the Site. The Site is greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland and greater than 1,000 feet to a freshwater well or spring. The Site is not within a 100-year floodplain or overlying a subsurface mine or unstable area. The Site is located in a medium-potential karst area. Potential receptors identified during site characterization are displayed in Figure 2.

Based on these criteria, the following NMOCD Table 1 closure criteria apply:

- 10 milligrams per kilogram (mg/kg) benzene;
- 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX);
- 100 mg/kg total petroleum hydrocarbons (TPH); and
- 600 mg/kg chloride.

INITIAL SITE ASSESSMENT

On March 13, 2020 and March 18, 2020, LTE personnel inspected the Site to evaluate the release extent. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Six surface soil samples (SS01 through SS06) were collected from ground surface within the release extent. The locations of preliminary soil samples are also depicted on Figure 2. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. A photographic log is included as Attachment 2.

EXCAVATION AND SOIL SAMPLING ACTIVITIES

From March 25, 2020 to April 16, 2020, LTE was on site to oversee excavation activities warranted based on preliminary soil sampling analytical data. Corrective action began by utilizing heavy equipment to remove impacted material from the release area. Excavation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.



During excavation activities, excavation refusal was encountered at a competent, dense caliche in the areas of the lease road and pipeline ROW at approximately 1.5 feet bgs. The caliche was observed to be consistently well indurated throughout the spill area. Close inspection of the rock deemed it as an impermeable surface with a mature cement that was not only impenetrable with heavy equipment, but generally appeared impermeable to liquids. There was no evidence of fractures or karst dissolution features. All impacted soil within the release area was removed until the dense caliche was encountered. At that point a decontaminated hammer drill and excavator bucket were used to sample the rock, ensuring that samples collected were representative of the rock itself and not the overlying material.

Excavation activities continued south in the dry wash. Following excavation activities, 5-point composite confirmation soil samples were collected from the floor (samples labeled as "FS") and sidewalls (samples labeled as "SW") of the excavation area. Each soil sample represented at most 200 square feet. Soil samples were placed directly into a pre-cleaned glass jar, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C), under strict chain-of-custody (COC) procedures, to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States EPA Method 8021B; TPH- GRO, TPH- DRO, and TPH- MRO following EPA Method 8015M/D; and chloride following EPA Method 300.0.

During the duration of remediation activities, approximately 2,402 cubic yards of impacted soil were removed from the excavation area and transported to the R360 Halfway Facility in Hobbs, New Mexico for disposal under WPX approved manifests. Waste manifests are available upon request from WPX. The excavation area measured a total of approximately 22,133 square feet in area and ranged in depth from 1.5 feet bgs to 10 feet bgs. The excavation area and soil sample locations are depicted on Figures 3A through 3C. Photographic documentation was conducted through remediation events and is included in Attachment 2.

ANALYTICAL RESULTS

Laboratory analytical results of all final excavation confirmation soil samples indicate compliance with the Closure Criteria, except for soil samples FS03 through FS09, FS12, FS19, FS20, FS25, FS26, FS29, FS32, FS33, FS34, FS38, FS41, FS48, FS50, FS52, FS55, FS56, FS58, FS59, FS64, FS66 and FS75. The areas represented by soil samples FS64, FS66, and FS75 were excavated as demonstrated by soil samples FS92, FS87, and FS78, respectively. Additionally, laboratory analytical data indicated all impacted soil was removed from the dry wash to the south.

All remaining excavation confirmation samples yielded chloride concentrations exceeding the Closure Criteria and were collected from the previously described well indurated caliche. Chloride concentrations range from 688 mg/kg in soil sample FS12 to 7,080 mg/kg in soil sample FS29. All of these samples were either collected within the lease road or within the pipeline ROW. Laboratory analytical results are summarized in Table 1. Complete laboratory analytical reports



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are included in Attachment 3. It should be noted that the project name changes from Breakwater Release to LVP Gathering Release on some of the analytical reports. Both names refer to this Site.

VARIANCE AND CLOSURE REQUEST

Remediation of impacted soils associated with the subject release was successfully achieved to the vertical extent possible. All unconsolidated impacted soil was removed from the spill area until either field screening indicated compliance with Closure Criteria or refusal at the caliche was encountered, whichever came first. WPX requests a variance to leave the elevated chloride concentrations in place at the top of the caliche. The variance is equally protective of public health and environment. The chloride concentrations will not affect surface receptors because surface soil has been removed and replaced. It is likely that the impermeable properties of the maturely cemented caliche formation have acted, and will continue to act as a barrier to vertical migration of remaining chloride impacts to subsurface waters. Additionally, the excavation associated with the utility ROW was backfilled and tightly compacted with topsoil to ground surface. Revegetation will stabilize the topsoil and eliminate possible future erosion and exposure of the caliche. As such, WPX requests no further action and review of the potential consequences that could arise from utilizing advanced equipment to investigate remaining chloride impacts by fracturing the caliche formation barrier.

Following remediation events, the remaining excavations associated with the road and dry wash were backfilled with locally sourced materials and recontoured to match pre-existing conditions. Additionally, the area in pasture will be seeded with a BLM-approved seed mix during favorable germination conditions to promote regrowth of vegetation.

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

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'Chris McKisson'.

Chris McKisson
Project Scientist

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

Ashley L. Ager, M.S., P.G.
Senior Geologist



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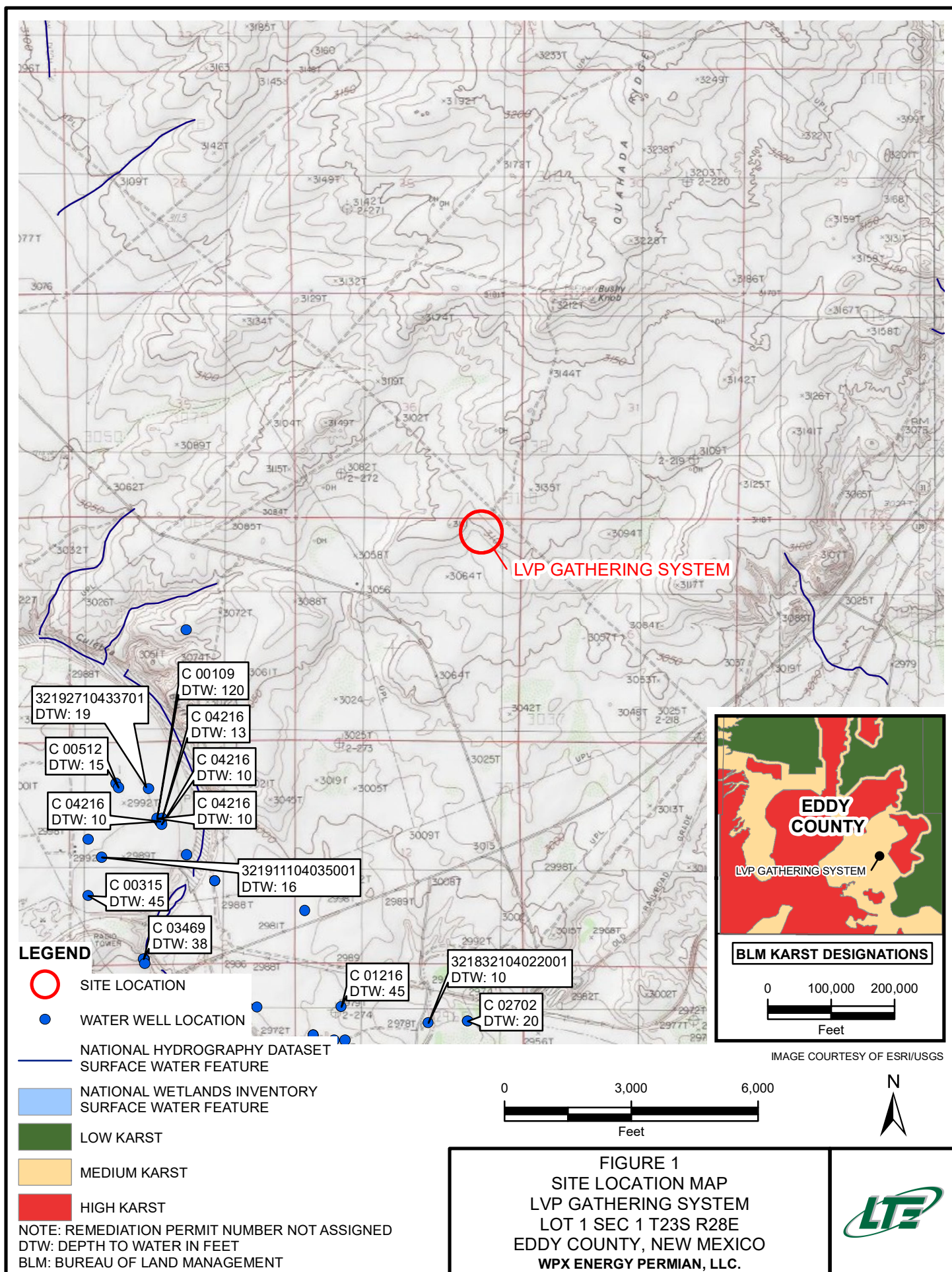
cc: Jim Raley, WPX
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Bureau of Land Management

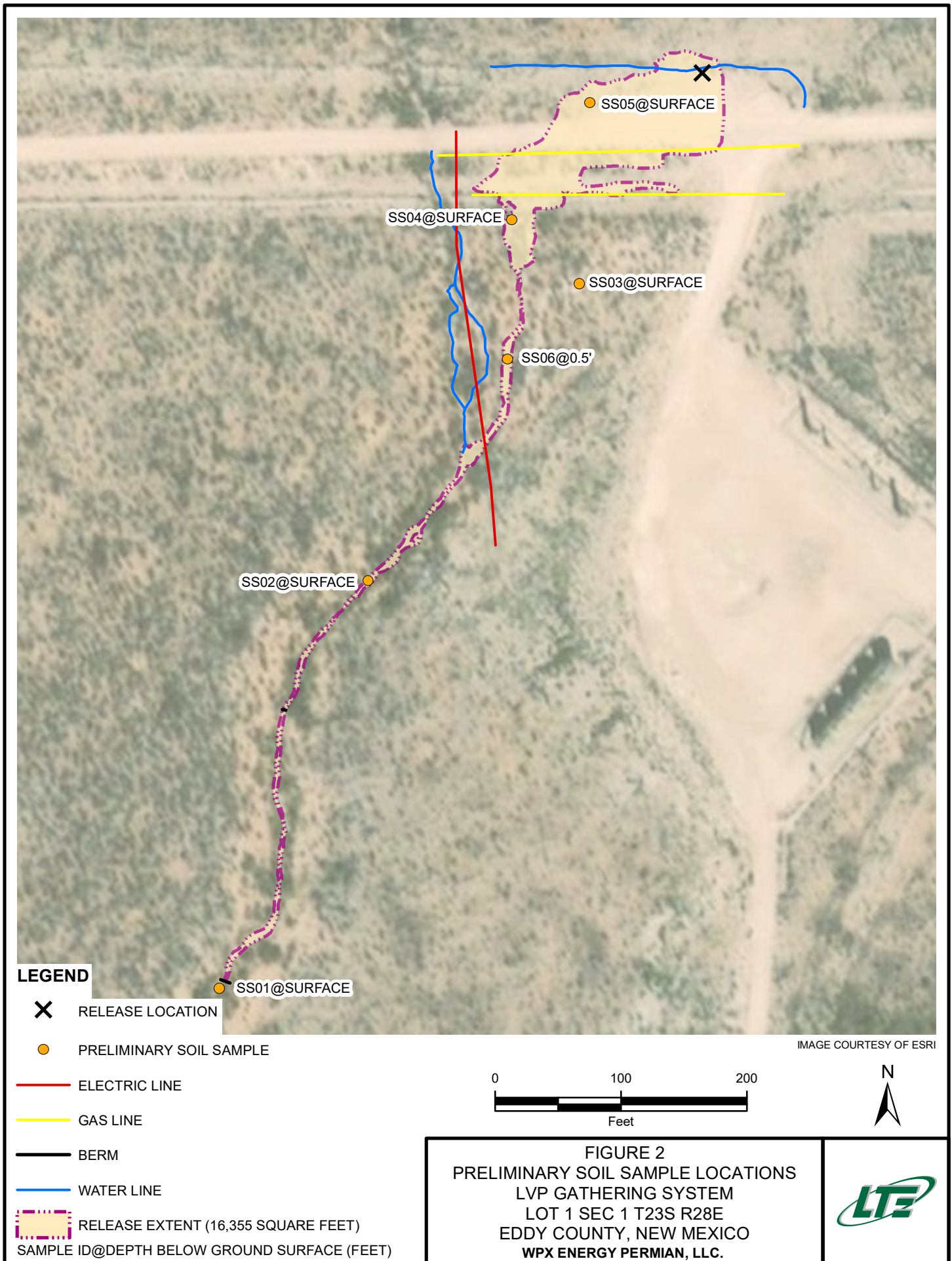
Attachments:

Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3A Excavation Soil Sample Locations
Figure 3B Excavation Soil Sample Locations
Figure 3C Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Form C-141
Attachment 2 Photographic Log
Attachment 3 Laboratory Analytical Reports

FIGURES







**LEGEND**

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE
- ELECTRIC LINE
- GAS LINE
- BERM
- WATER LINE
- EXCAVATION EXTENT (22,133 SQUARE FEET)
- RELEASE EXTENT (16,355 SQUARE FEET)
- SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

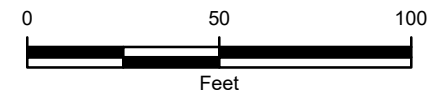
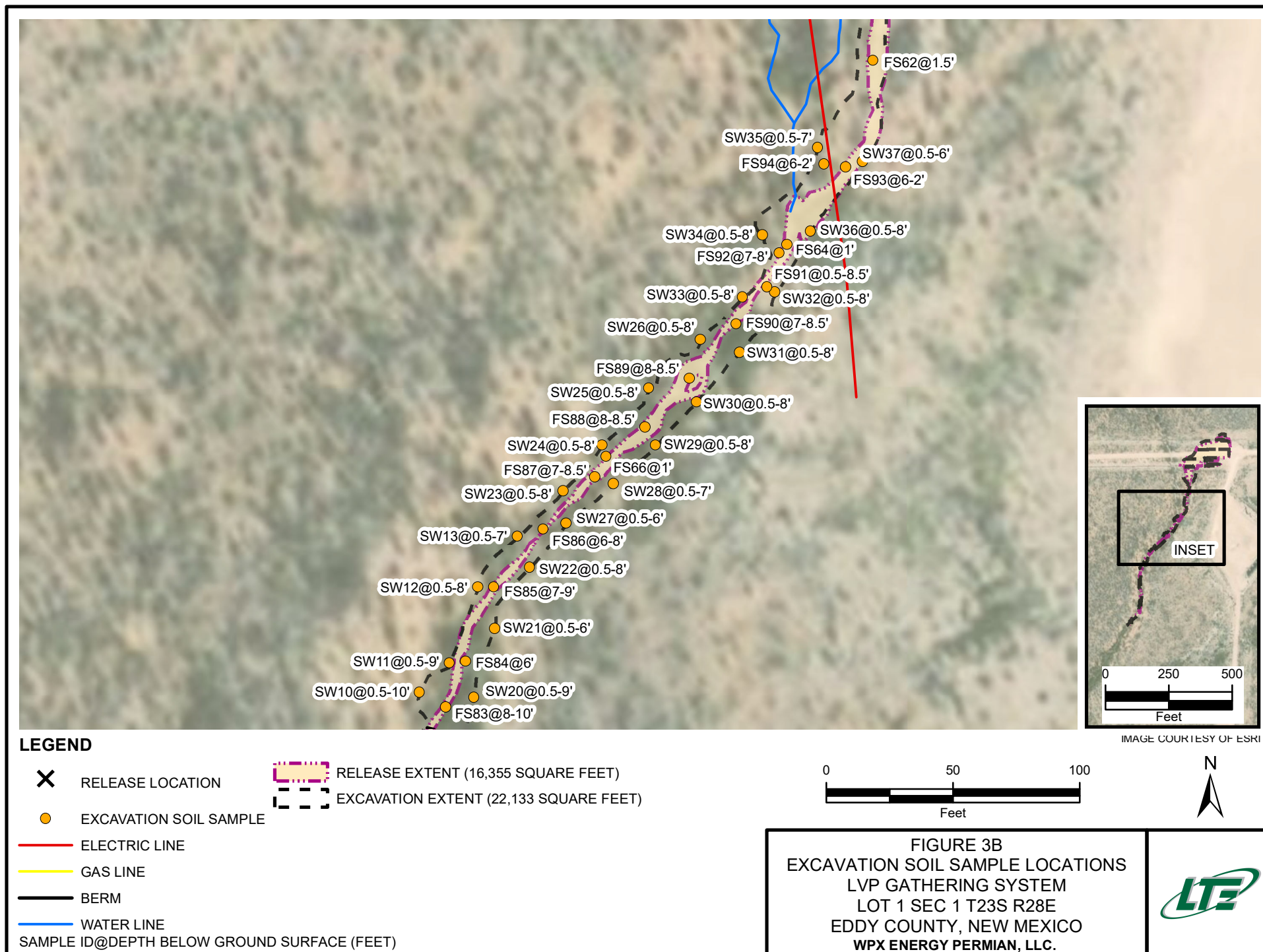
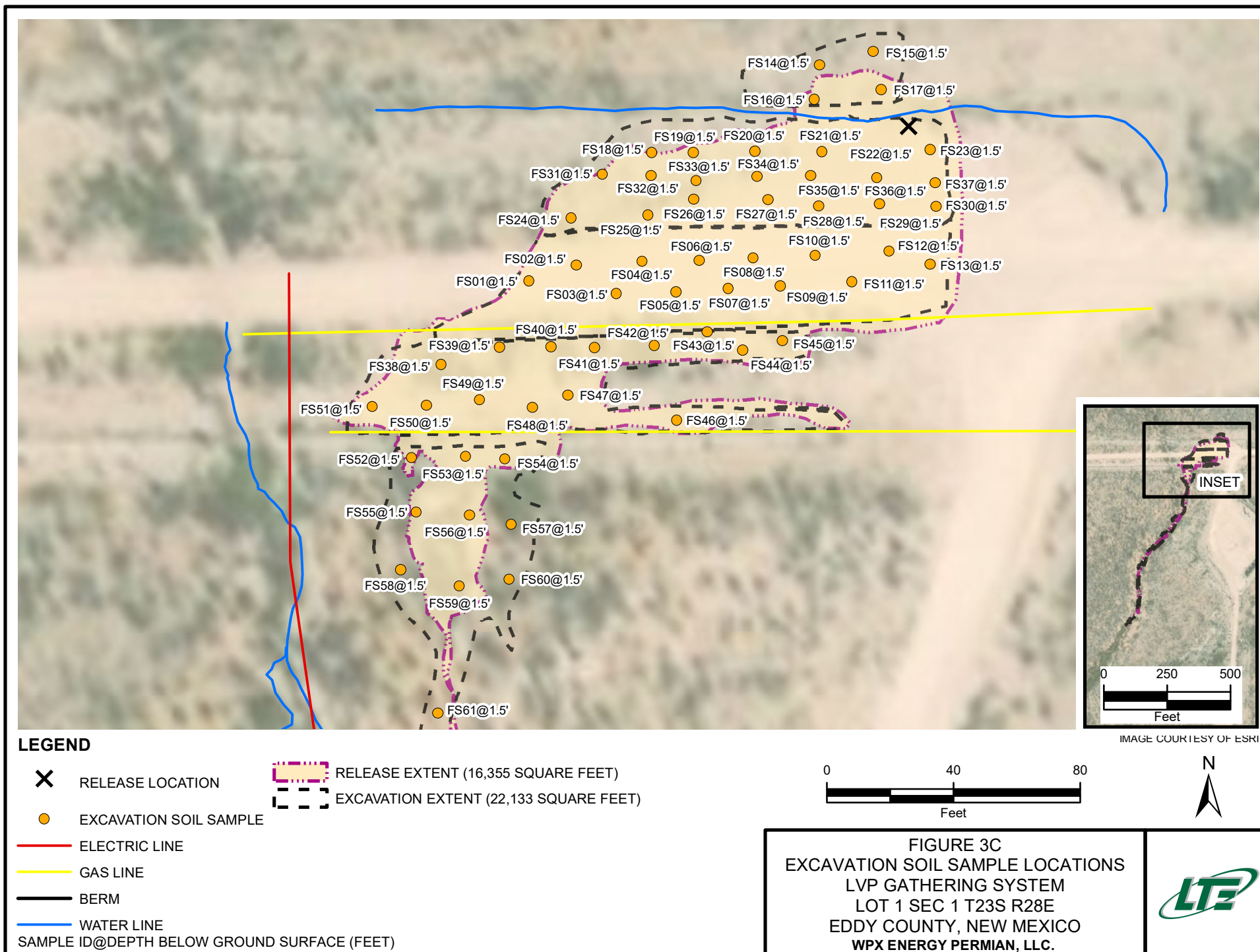


IMAGE COURTESY OF ESRI

FIGURE 3A
EXCAVATION SOIL SAMPLE LOCATIONS
 LVP GATHERING SYSTEM
 LOT 1 SEC 1 T23S R28E
 EDDY COUNTY, NEW MEXICO
 WPX ENERGY PERMIAN, LLC.







TABLE



TABLE 1
SOIL ANALYTICAL RESULTS

LVP GATHERING SYSTEM
INCIDENT ID NRM2008555443
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
SS01	surface	03/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<10.0	Excavated
SS02	surface	03/13/2020	0.0186	0.00538	<0.00198	<0.00198	0.0240	<50.0	<50.0	<50.0	<50.0	<50.0	2940	Excavated
SS03	surface	03/13/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	13.5	Excavated
SS04	surface	03/13/2020	0.0411	0.0899	0.00816	0.0411	0.180	<49.8	<49.8	<49.8	<49.8	<49.8	7800	Excavated
SS05	surface	03/13/2020	0.189	0.148	0.0105	0.0601	0.408	<50.1	<50.1	<50.1	<50.1	<50.1	13500	Excavated
SS06	0.5	03/18/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0	Excavated
FS01	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	207	In-Situ
FS02	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	586	In-Situ
FS03	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1570	In-Situ
FS04	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1570	In-Situ
FS05	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1550	In-Situ
FS06	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1550	In-Situ
FS07	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1520	In-Situ
FS08	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	1030	In-Situ
FS09	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1160	In-Situ
FS10	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	516	In-Situ
FS11	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	463	In-Situ
FS12	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	688	In-Situ
FS13	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	416	In-Situ
FS14	1.5	03/25/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	65.9	In-Situ
FS15	1.5	03/25/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	97.1	In-Situ
FS16	1.5	03/25/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	87.9	In-Situ
FS17	1.5	03/25/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	22.0	In-Situ
FS18	1.5	03/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	26.2	In-Situ
FS19	1.5	03/26/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	1270	In-Situ
FS20	1.5	03/26/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	1090	In-Situ
FS21	1.5	03/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	34.1	In-Situ
FS22	1.5	03/25/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	280	In-Situ
FS23	1.5	03/26/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	39.2	In-Situ
FS24	1.5	03/26/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	39.9	In-Situ



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TABLE 1
SOIL ANALYTICAL RESULTS

LVP GATHERING SYSTEM
INCIDENT ID NRM2008555443
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
FS25	1.5	03/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1480	In-Situ
FS26	1.5	03/26/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2910	In-Situ
FS27	1.5	03/26/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	234	In-Situ
FS28	1.5	03/26/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	286	In-Situ
FS29	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	7080	In-Situ
FS30	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	400	In-Situ
FS31	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	286	In-Situ
FS32	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	52.8	<50.0	52.8	52.8	4560	In-Situ
FS33	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	6100	In-Situ
FS34	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	3200	In-Situ
FS35	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	218	In-Situ
FS36	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	182	In-Situ
FS37	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	130	In-Situ
FS38	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	1210	In-Situ
FS39	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	361	In-Situ
FS40	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	51.7	In-Situ
FS41	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	4580	In-Situ
FS42	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	32.9	In-Situ
FS43	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	195	In-Situ
FS44	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	46.1	In-Situ
FS45	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	26.2	In-Situ
FS46	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	52.2	In-Situ
FS47	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	57.2	In-Situ
FS48	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	989	In-Situ
FS49	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	366	In-Situ
FS50	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1960	In-Situ
FS51	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	372	In-Situ
FS52	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	6030	In-Situ
FS53	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	451	In-Situ
FS54	1.5	03/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	570	In-Situ

TABLE 1
SOIL ANALYTICAL RESULTS

LVP GATHERING SYSTEM
INCIDENT ID NRM2008555443
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
FS55	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	2140	In-Situ
FS56	1.5	03/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	845	In-Situ
FS57	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	35.9	In-Situ
FS58	1.5	03/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	695	In-Situ
FS59	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	4260	In-Situ
FS60	1.5	03/27/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	12.4	In-Situ
FS61	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	<9.96	In-Situ
FS62	1.5	03/27/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	256	In-Situ
FS64	1	04/02/2020	-	-	-	-	-	-	-	-	-	-	1340	Excavated
FS66	1	04/02/2020	-	-	-	-	-	-	-	-	-	-	1050	Excavated
FS75	1	04/02/2020	-	-	-	-	-	-	-	-	-	-	1400	Excavated
FS77	5 - 6	04/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	176	In-Situ
FS78	5.5 - 6	04/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	76.8	In-Situ
FS79	5.5 - 6	04/09/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	408	In-Situ
FS80	5.5 - 6	04/09/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	13.2	In-Situ
FS81	6 - 7	04/14/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	14.9	In-Situ
FS82	5.5 - 6	04/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	457	In-Situ
FS83	8 - 10	04/14/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	15.3	In-Situ
FS84	6	04/14/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	<9.94	In-Situ
FS85	7 - 9	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	116	In-Situ
FS86	6 - 8	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	<9.96	In-Situ
FS87	7 - 8.5	04/15/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	12.1	In-Situ
FS88	8 - 8.5	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	42.3	In-Situ
FS89	8 - 8.5	04/15/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	<9.98	In-Situ
FS90	7 - 8.5	04/15/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0	In-Situ
FS91	0.5 - 8.5	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	123	In-Situ
FS92	7 - 8	04/16/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	17.7	In-Situ
FS93	6 - 2	04/16/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	127	In-Situ
FS94	6 - 2	04/16/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	61.9	In-Situ
SW01	0.5 - 6	04/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	13.1	In-Situ
SW02	0.5 - 6	04/08/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	13.1	In-Situ

TABLE 1
SOIL ANALYTICAL RESULTS

LVP GATHERING SYSTEM
INCIDENT ID NRM2008555443
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
SW03	0.5 - 6	04/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<9.96	In-Situ
SW04	0.5 - 6	04/08/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	362	In-Situ
SW05	0.5 - 6	04/10/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98	In-Situ
SW06	0.5 - 6	04/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	440	In-Situ
SW07	0.5 - 6	04/10/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	12.7	In-Situ
SW08	0.5 - 7	04/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	15.0	In-Situ
SW09	0.5 - 7	04/14/2020	<0.0104	<0.0104	<0.0104	<0.0104	<0.0104	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98	In-Situ
SW10	0.5 - 10	04/14/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	59.9	In-Situ
SW11	0.5 - 9	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	178	In-Situ
SW12	0.5 - 8	04/15/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	582	In-Situ
SW13	0.5 - 7	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	10.2	In-Situ
SW14	0.5 - 6	04/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	141	In-Situ
SW15	0.5 - 6	04/10/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	46.8	In-Situ
SW16	0.5 - 6	04/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	599	In-Situ
SW17	0.5 - 7	04/14/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	12.1	In-Situ
SW18	0.5 - 6	04/09/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	64.1	In-Situ
SW19	0.5 - 10	04/14/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	102	In-Situ
SW20	0.5 - 9	04/15/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	24.3	In-Situ
SW21	0.5 - 6	04/09/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	163	In-Situ
SW22	0.5 - 8	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	12.4	In-Situ
SW23	0.5 - 8	04/15/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	<9.92	In-Situ
SW24	0.5 - 8	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	33.0	In-Situ
SW25	0.5 - 8	04/16/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	48.5	In-Situ
SW26	0.5 - 8	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	11.5	In-Situ
SW27	0.5 - 6	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	26.0	In-Situ
SW28	0.5 - 7	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0	In-Situ
SW29	0.5 - 8	04/15/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0	In-Situ
SW30	0.5 - 8	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0	In-Situ
SW31	0.5 - 8	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	24.2	In-Situ
SW32	0.5 - 8	04/15/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	104	In-Situ

TABLE 1
SOIL ANALYTICAL RESULTS

LVP GATHERING SYSTEM
INCIDENT ID NRM2008555443
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
SW33	0.5 - 8	04/16/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	18.1	In-Situ
SW34	0.5 - 8	04/16/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	11.8	In-Situ
SW35	0.5 - 7	04/16/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	71.1	In-Situ
SW36	0.5 - 8	04/16/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	406	In-Situ
SW37	0.5 - 6	04/16/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	25.6	In-Situ
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	NE	100	600	NA

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

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



A proud member
of WSP

ATTACHMENT 1: 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 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	NRM2008555443
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	WPX Energy, Inc.	OGRID	246289
Contact Name	Jim Raley	Contact Telephone	575-689-7597
Contact email	James.Raley@wpxenergy.com	Incident # (assigned by OCD)	
Contact mailing address	5315 Buena Vista Dr., Carlsbad, NM 88220		

Location of Release Source

Latitude 32.340972 Longitude -104.035245
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	LVP SWD 1	Site Type	Production Facility
Date Release Discovered	3/12/2020	API# (if applicable)	30-015-42234

Unit Letter	Section	Township	Range	County
A	01	23S	28E	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 175	Volume Recovered (bbls) 30
	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

A third party vehicle caused damage to LVP gathering system trunk line. Resulting in a release of approx. 175 bbls of produced water to BLM surface, approx. 30 bbls was recovered. The release point was located at (WGS84 32.340972, -104.035245)

Form C-141

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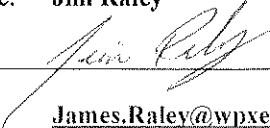
State of New Mexico
Oil Conservation Division

Incident ID	NRM2008555443
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Volume exceeded 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Phone call to Mike Bratcher on 3/13/2019 at 8:02 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 <u>not</u> 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: Jim Raley Signature:  email: <u>James.Raley@wpenergy.com</u>	Title: Environmental Specialist Date: 5/18/2020 Telephone: 575-689-7597
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	NRM2008555443
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?	<u><50</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☒ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

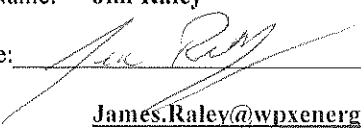
Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	NRM2008555443
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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: **Jim Raley**Title: **Environmental Specialist**Signature: Date: **5/18/2020**email: **James.Raley@wpenergy.com**Telephone: **575-689-7597****OCD Only**Received by: **Cristina Eads**Date: **05/27/2020**

Form C-141

Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NRM2008555443
District RP	
Facility ID	
Application ID	

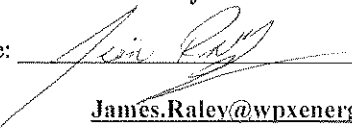
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

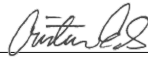
Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: **Jim Raley**Title: **Environmental Specialist**Signature: Date: **5/18/2020**email: **James.Raley@wpenergy.com**Telephone: **575-689-7597****OCD Only**Received by: **Cristina Eads**Date: **05/27/2020**

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

Closure Approved by: **D E N I E D** Date: **08/04/2020**Printed Name: **Cristina Eads**Title: **Environmental Specialist**

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS



Analytical Report 655702

**for
LT Environmental, Inc.**

Project Manager: Chris McKisson

Breakwater Spill

034820019

17-MAR-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)



17-MAR-20

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **655702**

Breakwater Spill

Project Address: Rural Eddy County

Chris McKisson:

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) 655702. 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. 655702 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

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 655702****LT Environmental, Inc., Arvada, CO**

Breakwater Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	03-13-20 14:03	surface	655702-001
SS02	S	03-13-20 14:10	surface	655702-002
SS03	S	03-13-20 14:13	surface	655702-003
SS04	S	03-13-20 14:15	surface	655702-004
SS05	S	03-13-20 14:40	surface	655702-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Breakwater Spill

Project ID: 034820019

Work Order Number(s): 655702

Report Date: 17-MAR-20

Date Received: 03/13/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3119634 BTEX by EPA 8021B

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



Certificate of Analysis Summary 655702

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 034820019
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Mar-13-20 04:25 pm
Report Date: 17-MAR-20
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	655702-001	655702-002	655702-003	655702-004	655702-005	
	Field Id:	SS01	SS02	SS03	SS04	SS05	
	Depth:	surface-	surface-	surface-	surface-	surface-	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Mar-13-20 14:03	Mar-13-20 14:10	Mar-13-20 14:13	Mar-13-20 14:15	Mar-13-20 14:40	
BTEX by EPA 8021B	Extracted:	Mar-13-20 18:00	Mar-13-20 18:00	Mar-13-20 18:00	Mar-13-20 18:00	Mar-13-20 18:00	
	Analyzed:	Mar-14-20 05:10	Mar-14-20 05:30	Mar-14-20 05:50	Mar-14-20 06:11	Mar-14-20 06:31	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	0.0186 0.00198	<0.00199 0.00199	0.0411 0.00200	0.189 0.00202	
Toluene		<0.00199 0.00199	0.00538 0.00198	<0.00199 0.00199	0.0899 0.00200	0.148 0.00202	
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	0.00816 0.00200	0.0105 0.00202	
m,p-Xylenes		<0.00398 0.00398	<0.00396 0.00396	<0.00398 0.00398	0.0300 0.00401	0.0425 0.00403	
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	0.0111 0.00200	0.0176 0.00202	
Xylenes, Total		<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	0.0411 0.00200	0.0601 0.00202	
Total BTEX		<0.00199 0.00199	0.0240 0.00198	<0.00199 0.00199	0.180 0.00200	0.408 0.00202	
Chloride by EPA 300	Extracted:	Mar-13-20 19:03	Mar-13-20 19:03	Mar-13-20 19:03	Mar-13-20 19:03	Mar-13-20 19:03	
	Analyzed:	Mar-13-20 21:29	Mar-13-20 21:36	Mar-13-20 21:42	Mar-13-20 22:01	Mar-13-20 22:07	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<10.0 10.0	2940 50.0	13.5 9.98	7800 50.1	13500 50.1	
TPH by SW8015 Mod	Extracted:	Mar-13-20 18:30	Mar-13-20 18:30	Mar-13-20 18:30	Mar-13-20 18:30	Mar-13-20 18:30	
	Analyzed:	Mar-14-20 00:51	Mar-14-20 01:12	Mar-13-20 22:08	Mar-13-20 22:28	Mar-13-20 22:48	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.1 50.1	
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.1 50.1	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.1 50.1	
Total GRO-DRO		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.1 50.1	
Total TPH		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.1 50.1	

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

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

Version: 1.9%

Jessica Kramer
Project Manager



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS01**
 Lab Sample Id: 655702-001

Matrix: Soil
 Date Collected: 03.13.20 14.03

Date Received: 03.13.20 16.25
 Sample Depth: surface

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3119637

Date Prep: 03.13.20 19.03

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	03.13.20 21.29	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3119703

Date Prep: 03.13.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.14.20 00.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.14.20 00.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.14.20 00.51	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.14.20 00.51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.14.20 00.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.14.20 00.51	
o-Terphenyl	84-15-1	104	%	70-135	03.14.20 00.51	



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS01** Matrix: **Soil** Date Received: 03.13.20 16.25
 Lab Sample Id: 655702-001 Date Collected: 03.13.20 14.03 Sample Depth: surface
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.13.20 18.00 Basis: **Wet Weight**
 Seq Number: 3119634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.14.20 05.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.14.20 05.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.14.20 05.10		
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.14.20 05.10		



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS02** Matrix: **Soil** Date Received: 03.13.20 16.25
 Lab Sample Id: 655702-002 Date Collected: 03.13.20 14.10 Sample Depth: surface
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.13.20 19.03 Basis: **Wet Weight**
 Seq Number: 3119637

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2940	50.0	mg/kg	03.13.20 21.36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 03.13.20 18.30 Basis: **Wet Weight**
 Seq Number: 3119703

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.14.20 01.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.14.20 01.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.14.20 01.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.14.20 01.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.14.20 01.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.14.20 01.12	
o-Terphenyl	84-15-1	101	%	70-135	03.14.20 01.12	



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: SS02
Lab Sample Id: 655702-002

Matrix: Soil
Date Collected: 03.13.20 14.10

Date Received: 03.13.20 16.25
Sample Depth: surface

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.13.20 18.00

Basis: Wet Weight

Seq Number: 3119634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0186	0.00198	mg/kg	03.14.20 05.30		1
Toluene	108-88-3	0.00538	0.00198	mg/kg	03.14.20 05.30		1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.14.20 05.30	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.14.20 05.30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.14.20 05.30	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	03.14.20 05.30	U	1
Total BTEX		0.0240	0.00198	mg/kg	03.14.20 05.30		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.14.20 05.30		
4-Bromofluorobenzene	460-00-4	87	%	70-130	03.14.20 05.30		



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS03** Matrix: **Soil** Date Received: 03.13.20 16.25
 Lab Sample Id: 655702-003 Date Collected: 03.13.20 14.13 Sample Depth: surface
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.13.20 19.03 Basis: **Wet Weight**
 Seq Number: 3119637

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	9.98	mg/kg	03.13.20 21.42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 03.13.20 18.30 Basis: **Wet Weight**
 Seq Number: 3119708

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.13.20 22.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.13.20 22.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.13.20 22.08	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.13.20 22.08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.13.20 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	03.13.20 22.08	
o-Terphenyl	84-15-1	113	%	70-135	03.13.20 22.08	



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: SS03
Lab Sample Id: 655702-003

Matrix: Soil
Date Collected: 03.13.20 14.13

Date Received: 03.13.20 16.25
Sample Depth: surface

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.13.20 18.00

Basis: Wet Weight

Seq Number: 3119634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.14.20 05.50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.14.20 05.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.14.20 05.50		
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.14.20 05.50		



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS04**
Lab Sample Id: 655702-004

Matrix: Soil
Date Collected: 03.13.20 14.15

Date Received: 03.13.20 16.25
Sample Depth: surface

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3119637

Date Prep: 03.13.20 19.03

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7800	50.1	mg/kg	03.13.20 22.01		5

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3119708

Date Prep: 03.13.20 18.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.13.20 22.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	03.13.20 22.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.13.20 22.28	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	03.13.20 22.28	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	03.13.20 22.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	03.13.20 22.28	
o-Terphenyl	84-15-1	116	%	70-135	03.13.20 22.28	



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS04**
 Lab Sample Id: 655702-004

Matrix: Soil
 Date Collected: 03.13.20 14.15

Date Received: 03.13.20 16.25
 Sample Depth: surface

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.13.20 18.00

Basis: Wet Weight

Seq Number: 3119634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0411	0.00200	mg/kg	03.14.20 16.44		1
Toluene	108-88-3	0.0899	0.00200	mg/kg	03.14.20 16.44		1
Ethylbenzene	100-41-4	0.00816	0.00200	mg/kg	03.14.20 16.44		1
m,p-Xylenes	179601-23-1	0.0300	0.00401	mg/kg	03.14.20 16.44		1
o-Xylene	95-47-6	0.0111	0.00200	mg/kg	03.14.20 16.44		1
Xylenes, Total	1330-20-7	0.0411	0.00200	mg/kg	03.14.20 16.44		1
Total BTEX		0.180	0.00200	mg/kg	03.14.20 16.44		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	81	%	70-130	03.14.20 06.11		
1,4-Difluorobenzene	540-36-3	94	%	70-130	03.14.20 06.11		



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS05** Matrix: **Soil** Date Received: 03.13.20 16.25
 Lab Sample Id: 655702-005 Date Collected: 03.13.20 14.40 Sample Depth: surface
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.13.20 19.03 Basis: **Wet Weight**
 Seq Number: 3119637

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13500	50.1	mg/kg	03.13.20 22.07		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 03.13.20 18.30 Basis: **Wet Weight**
 Seq Number: 3119708

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.13.20 22.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.13.20 22.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.13.20 22.48	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	03.13.20 22.48	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.13.20 22.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	03.13.20 22.48	
o-Terphenyl	84-15-1	116	%	70-135	03.13.20 22.48	



Certificate of Analytical Results 655702

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS05** Matrix: **Soil** Date Received: 03.13.20 16.25
 Lab Sample Id: 655702-005 Date Collected: 03.13.20 14.40 Sample Depth: surface
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.13.20 18.00 Basis: **Wet Weight**
 Seq Number: 3119634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.189	0.00202	mg/kg	03.14.20 17.04		1
Toluene	108-88-3	0.148	0.00202	mg/kg	03.14.20 17.04		1
Ethylbenzene	100-41-4	0.0105	0.00202	mg/kg	03.14.20 17.04		1
m,p-Xylenes	179601-23-1	0.0425	0.00403	mg/kg	03.14.20 17.04		1
o-Xylene	95-47-6	0.0176	0.00202	mg/kg	03.14.20 17.04		1
Xylenes, Total	1330-20-7	0.0601	0.00202	mg/kg	03.14.20 17.04		1
Total BTEX		0.408	0.00202	mg/kg	03.14.20 17.04		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.14.20 06.31		
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.14.20 06.31		



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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3119637

MB Sample Id: 7698873-1-BLK

Matrix: Solid

LCS Sample Id: 7698873-1-BKS

Prep Method: E300P

Date Prep: 03.13.20

LCSD Sample Id: 7698873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	260	104	90-110	0	20	mg/kg	03.13.20 20:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3119637

Parent Sample Id: 655695-001

Matrix: Soil

MS Sample Id: 655695-001 S

Prep Method: E300P

Date Prep: 03.13.20

MSD Sample Id: 655695-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	462	200	674	106	675	107	90-110	0	20	mg/kg	03.13.20 20:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3119637

Parent Sample Id: 655702-003

Matrix: Soil

MS Sample Id: 655702-003 S

Prep Method: E300P

Date Prep: 03.13.20

MSD Sample Id: 655702-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.5	200	228	107	226	106	90-110	1	20	mg/kg	03.13.20 21:48	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119703

MB Sample Id: 7698918-1-BLK

Matrix: Solid

LCS Sample Id: 7698918-1-BKS

Prep Method: SW8015P

Date Prep: 03.13.20

LCSD Sample Id: 7698918-1-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	982	98	962	96	70-135	2	35	mg/kg	03.13.20 14:25	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1060	106	70-135	1	35	mg/kg	03.13.20 14:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		115		105		70-135	%	03.13.20 14:25
o-Terphenyl	97		107		106		70-135	%	03.13.20 14:25

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119708

MB Sample Id: 7698930-1-BLK

Matrix: Solid

LCS Sample Id: 7698930-1-BKS

Prep Method: SW8015P

Date Prep: 03.13.20

LCSD Sample Id: 7698930-1-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	867	87	916	92	70-135	5	35	mg/kg	03.13.20 14:25	
Diesel Range Organics (DRO)	<50.0	1000	984	98	1040	104	70-135	6	35	mg/kg	03.13.20 14:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		115		122		70-135	%	03.13.20 14:25
o-Terphenyl	105		102		108		70-135	%	03.13.20 14:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119703

Matrix: Solid

MB Sample Id: 7698918-1-BLK

Prep Method: SW8015P

Date Prep: 03.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.13.20 15:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119708

Matrix: Solid

MB Sample Id: 7698930-1-BLK

Prep Method: SW8015P

Date Prep: 03.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.13.20 15:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119703

Matrix: Soil

Parent Sample Id: 655684-001

MS Sample Id: 655684-001 S

Prep Method: SW8015P

Date Prep: 03.13.20

MSD Sample Id: 655684-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	849	85	878	88	70-135	3	35	mg/kg	03.13.20 18:03	
Diesel Range Organics (DRO)	88.1	1000	936	85	946	86	70-135	1	35	mg/kg	03.13.20 18:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		105		70-135	%	03.13.20 18:03
o-Terphenyl	99		99		70-135	%	03.13.20 18:03

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119708

Parent Sample Id: 655688-009

Matrix: Soil

MS Sample Id: 655688-009 S

Prep Method: SW8015P

Date Prep: 03.13.20

MSD Sample Id: 655688-009 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)	<50.2	1000	937	94	875	88	70-135	7	35	mg/kg	03.13.20 18:03	
Diesel Range Organics (DRO)	76.6	1000	1050	97	982	91	70-135	7	35	mg/kg	03.13.20 18:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		120		70-135	%	03.13.20 18:03
o-Terphenyl	113		107		70-135	%	03.13.20 18:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119634

MB Sample Id: 7698870-1-BLK

Matrix: Solid

LCS Sample Id: 7698870-1-BKS

Prep Method: SW5030B

Date Prep: 03.13.20

LCSD Sample Id: 7698870-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.107	107	70-130	2	35	mg/kg	03.13.20 23:23	
Toluene	<0.00200	0.100	0.105	105	0.102	102	70-130	3	35	mg/kg	03.13.20 23:23	
Ethylbenzene	<0.00200	0.100	0.0998	100	0.0963	96	71-129	4	35	mg/kg	03.13.20 23:23	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.199	100	70-135	3	35	mg/kg	03.13.20 23:23	
o-Xylene	<0.00200	0.100	0.104	104	0.100	100	71-133	4	35	mg/kg	03.13.20 23:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		109		70-130	%	03.13.20 23:23
4-Bromofluorobenzene	94		95		92		70-130	%	03.13.20 23:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119634

Parent Sample Id: 655684-001

Matrix: Soil

MS Sample Id: 655684-001 S

Prep Method: SW5030B

Date Prep: 03.13.20

MSD Sample Id: 655684-001 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	0.111	111	0.0966	97	70-130	14	35	mg/kg	03.14.20 00:03	
Toluene	<0.00201	0.100	0.102	102	0.0892	90	70-130	13	35	mg/kg	03.14.20 00:03	
Ethylbenzene	<0.00201	0.100	0.0981	98	0.0865	87	71-129	13	35	mg/kg	03.14.20 00:03	
m,p-Xylenes	<0.00402	0.201	0.201	100	0.177	89	70-135	13	35	mg/kg	03.14.20 00:03	
o-Xylene	<0.00201	0.100	0.103	103	0.0905	91	71-133	13	35	mg/kg	03.14.20 00:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	03.14.20 00:03
4-Bromofluorobenzene	91		95		70-130	%	03.14.20 00:03

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

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

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

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



Chain of Custody

Work Order No: 655702

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 Casabad, 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:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	970 265 9885	Email:	cmckisson@ltenv.com or cymckisson@ltenv.com

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

Project Name:	Breakeater Spill	Turn Around	
Project Number:	03482019	Routine	☒
Project Location:	Rural Edgely Country	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
	Temperature (°C):	3.8	Thermometer ID:	TM007
	Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2
	Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	5
	Sample Custody Seals:	☒ Yes ☐ No		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
5501		S	3/13/20	1403	surface	1	TPH (EPA 8015)	MeOH: Me	
5502				1410		1	BTEX (EPA 0-801)	None: NO	
5503				1413		1	Chloride (EPA 300.0)	HNO3: HN	
5504				1415		1		H2SO4: H2	
5505				1440		1		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 Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7477: 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
Anna Byers		3/13/20 1545			3/13/20 16:25

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.13.2020 04.25.00 PM

Work Order #: 655702

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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:



Elizabeth McClellan

Date: 03.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.16.2020

Analytical Report 656196

for
LT Environmental, Inc.

Project Manager: Chris McKisson

Breakwater Spill

034820019

20-MAR-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)



20-MAR-20

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **656196**

Breakwater Spill

Project Address: Eddy

Chris McKisson:

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) 656196. 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. 656196 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

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 656196

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS06	S	03-18-20 10:32	0.5 ft	656196-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Breakwater Spill

Project ID: 034820019
Work Order Number(s): 656196

Report Date: 20-MAR-20
Date Received: 03/19/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3120331 BTEX by EPA 8021B

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



Certificate of Analysis Summary 656196

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 034820019
 Contact: Chris McKisson
 Project Location: Eddy

Date Received in Lab: Thu Mar-19-20 08:15 am
 Report Date: 20-MAR-20
 Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	656196-001					
	Field Id:	SS06					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Mar-18-20 10:32					
BTEX by EPA 8021B	Extracted:	Mar-19-20 11:34					
	Analyzed:	Mar-19-20 14:23					
	Units/RL:	mg/kg RL					
	Benzene	<0.00202 0.00202					
	Toluene	<0.00202 0.00202					
	Ethylbenzene	<0.00202 0.00202					
	m,p-Xylenes	<0.00403 0.00403					
	o-Xylene	<0.00202 0.00202					
Chloride by EPA 300	Extracted:	Mar-19-20 12:16					
	Analyzed:	Mar-19-20 12:43					
	Units/RL:	mg/kg RL					
	Chloride	<10.0 10.0					
	TPH by SW8015 Mod						
TPH by SW8015 Mod	Extracted:	Mar-19-20 15:00					
	Analyzed:	Mar-19-20 15:33					
	Units/RL:	mg/kg RL					
	Gasoline Range Hydrocarbons (GRO)	<50.2 50.2					
	Diesel Range Organics (DRO)	<50.2 50.2					
	Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2					
Total GRO-DRO		<50.2 50.2					
	Total TPH	<50.2 50.2					

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

Jessica Kramer
Project Manager



Certificate of Analytical Results 656196

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS06** Matrix: Soil Date Received: 03.19.20 08.15
 Lab Sample Id: 656196-001 Date Collected: 03.18.20 10.32 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 03.19.20 12.16 Basis: Wet Weight
 Seq Number: 3120336

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	03.19.20 12.43	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 03.19.20 15.00 Basis: Wet Weight
 Seq Number: 3120382

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.19.20 15.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.19.20 15.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.19.20 15.33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.19.20 15.33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.19.20 15.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.19.20 15.33	
o-Terphenyl	84-15-1	116	%	70-135	03.19.20 15.33	



Certificate of Analytical Results 656196

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **SS06**
 Lab Sample Id: 656196-001

Matrix: Soil
 Date Collected: 03.18.20 10.32

Date Received: 03.19.20 08.15
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.19.20 11.34

Basis: Wet Weight

Seq Number: 3120331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.19.20 14.23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.19.20 14.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.19.20 14.23		
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.19.20 14.23		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3120336

MB Sample Id: 7699267-1-BLK

Matrix: Solid

LCS Sample Id: 7699267-1-BKS

Prep Method: E300P

Date Prep: 03.19.20

LCSD Sample Id: 7699267-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	262	105	90-110	1	20	mg/kg	03.19.20 12:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3120336

Parent Sample Id: 656193-001

Matrix: Soil

MS Sample Id: 656193-001 S

Prep Method: E300P

Date Prep: 03.19.20

MSD Sample Id: 656193-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	312	200	527	108	528	108	90-110	0	20	mg/kg	03.19.20 12:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3120336

Parent Sample Id: 656277-004

Matrix: Solid

MS Sample Id: 656277-004 S

Prep Method: E300P

Date Prep: 03.19.20

MSD Sample Id: 656277-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	535	200	752	109	745	106	90-110	1	20	mg/kg	03.19.20 16:13	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3120382

MB Sample Id: 7699380-1-BLK

Matrix: Solid

LCS Sample Id: 7699380-1-BKS

Prep Method: SW8015P

Date Prep: 03.19.20

LCSD Sample Id: 7699380-1-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	938	94	1050	105	70-135	11	35	mg/kg	03.19.20 14:52	
Diesel Range Organics (DRO)	<50.0	1000	1050	105	1160	116	70-135	10	35	mg/kg	03.19.20 14:52	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		111		126		70-135	%	03.19.20 14:52
o-Terphenyl	98		119		134		70-135	%	03.19.20 14:52

Analytical Method: TPH by SW8015 Mod

Seq Number: 3120382

Matrix: Solid

MB Sample Id: 7699380-1-BLK

Prep Method: SW8015P

Date Prep: 03.19.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.19.20 14:32	

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3120382

Parent Sample Id: 656196-001

Matrix: Soil

MS Sample Id: 656196-001 S

Prep Method: SW8015P

Date Prep: 03.19.20

MSD Sample Id: 656196-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	903	90	924	92	70-135	2	35	mg/kg	03.19.20 15:53	
Diesel Range Organics (DRO)	<50.1	1000	983	98	1020	102	70-135	4	35	mg/kg	03.19.20 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		111		70-135	%	03.19.20 15:53
o-Terphenyl	111		117		70-135	%	03.19.20 15:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3120331

MB Sample Id: 7699269-1-BLK

Matrix: Solid

LCS Sample Id: 7699269-1-BKS

Prep Method: SW5030B

Date Prep: 03.19.20

LCSD Sample Id: 7699269-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.104	104	70-130	4	35	mg/kg	03.19.20 12:41	
Toluene	<0.00200	0.100	0.104	104	0.0995	100	70-130	4	35	mg/kg	03.19.20 12:41	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0950	95	71-129	5	35	mg/kg	03.19.20 12:41	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.197	99	70-135	5	35	mg/kg	03.19.20 12:41	
o-Xylene	<0.00200	0.100	0.103	103	0.0982	98	71-133	5	35	mg/kg	03.19.20 12:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		107		108		70-130	%	03.19.20 12:41
4-Bromofluorobenzene	94		93		95		70-130	%	03.19.20 12:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3120331

Parent Sample Id: 656196-001

Matrix: Soil

MS Sample Id: 656196-001 S

Prep Method: SW5030B

Date Prep: 03.19.20

MSD Sample Id: 656196-001 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	0.103	103	0.104	105	70-130	1	35	mg/kg	03.19.20 13:22	
Toluene	<0.00200	0.100	0.0933	93	0.0844	85	70-130	10	35	mg/kg	03.19.20 13:22	
Ethylbenzene	<0.00200	0.100	0.0877	88	0.0770	78	71-129	13	35	mg/kg	03.19.20 13:22	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.153	77	70-135	15	35	mg/kg	03.19.20 13:22	
o-Xylene	<0.00200	0.100	0.0916	92	0.0828	83	71-133	10	35	mg/kg	03.19.20 13:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	03.19.20 13:22
4-Bromofluorobenzene	96		94		70-130	%	03.19.20 13:22

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

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

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

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



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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)

Chain of Custody

Work Order No: 10561940

Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	wmather@ltenv.com, cmckisson@ltenv.com

Project Name:	Breakwater Spill	Turn Around	
Project Number:	034820019	Routine	☒
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Well Ice:	☒ Yes ☐ No
Temperature (°C):	1.0	Thermometer ID: <u>7NM007</u>		
Received Intact:	☒ Yes ☐ No	Correction Factor: <u>-0.2</u>		
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers: <u>1</u>		

SS06	s	3/18/2020	10:32	0.5'	1	x	x	x																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

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

1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3/19/20 7:50am			3/19/20 08:15

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.19.2020 08.15.00 AM

Work Order #: 656196

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: 03.19.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.19.2020

Analytical Report 656965

for
LT Environmental, Inc.

Project Manager: Dan Moir

Breakwater Spill

012720001

30-MAR-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)



30-MAR-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **656965**

Breakwater Spill

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) 656965. 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. 656965 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

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 656965****LT Environmental, Inc., Arvada, CO**

Breakwater Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Background Sample 1	S	03-24-20 15:07	0.5 ft	656965-001
FS14	S	03-25-20 09:22	1.5 ft	656965-002
FS15	S	03-25-20 09:31	1.5 ft	656965-003
FS16	S	03-25-20 09:38	1.5 ft	656965-004
FS17	S	03-25-20 09:43	1.5 ft	656965-005
FS22	S	03-25-20 11:15	1.5 ft	656965-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Breakwater Spill

Project ID: 012720001
Work Order Number(s): 656965

Report Date: 30-MAR-20
Date Received: 03/26/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121125 BTEX by EPA 8021B

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



Certificate of Analysis Summary 656965

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 012720001

Contact: Dan Moir

Project Location: Eddy

Date Received in Lab: Thu Mar-26-20 08:45 am

Report Date: 30-MAR-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	656965-001	656965-002	656965-003	656965-004	656965-005	656965-006
	<i>Field Id:</i>	Background Sample 1	FS14	FS15	FS16	FS17	FS22
	<i>Depth:</i>	0.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-24-20 15:07	Mar-25-20 09:22	Mar-25-20 09:31	Mar-25-20 09:38	Mar-25-20 09:43	Mar-25-20 11:15
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00
	<i>Analyzed:</i>	Mar-26-20 15:06	Mar-26-20 15:26	Mar-26-20 16:48	Mar-26-20 17:08	Mar-26-20 17:29	Mar-26-20 17:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00395 0.00395	<0.00398 0.00398	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Xylenes, Total		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00	Mar-26-20 11:00
	<i>Analyzed:</i>	Mar-26-20 16:20	Mar-26-20 16:26	Mar-26-20 16:32	Mar-26-20 16:50	Mar-26-20 16:57	Mar-26-20 17:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		593 50.5	65.9 9.98	97.1 9.98	87.9 9.92	22.0 10.1	280 10.1
TPH by SW8015 Mod	<i>Extracted:</i>	Mar-26-20 16:00	Mar-26-20 16:00	Mar-26-20 16:00	Mar-26-20 16:00	Mar-26-20 16:00	Mar-26-20 18:00
	<i>Analyzed:</i>	Mar-27-20 03:54	Mar-27-20 04:14	Mar-27-20 04:35	Mar-27-20 04:55	Mar-27-20 05:15	Mar-27-20 13:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.0 50.0
Diesel Range Organics (DRO)		<50.1 50.1	<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.0 50.0
Total GRO-DRO		<50.1 50.1	<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.0 50.0
Total TPH		<50.1 50.1	<50.3 50.3	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.0 50.0

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

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

Jessica Kramer
Project Manager



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **Background Sample 1**

Matrix: Soil

Date Received: 03.26.20 08.45

Lab Sample Id: 656965-001

Date Collected: 03.24.20 15.07

Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.26.20 11.00

Basis: Wet Weight

Seq Number: 3121143

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	593	50.5	mg/kg	03.26.20 16.20		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 03.26.20 16.00

Basis: Wet Weight

Seq Number: 3121138

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.27.20 03.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.27.20 03.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.27.20 03.54	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	03.27.20 03.54	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.27.20 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	03.27.20 03.54	
o-Terphenyl	84-15-1	121	%	70-135	03.27.20 03.54	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **Background Sample 1**

Matrix: Soil

Date Received: 03.26.20 08.45

Lab Sample Id: 656965-001

Date Collected: 03.24.20 15.07

Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.26.20 11.00

Basis: Wet Weight

Seq Number: 3121125

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.26.20 15.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.26.20 15.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	03.26.20 15.06		
4-Bromofluorobenzene	460-00-4	97	%	70-130	03.26.20 15.06		



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS14**
Lab Sample Id: 656965-002

Matrix: Soil
Date Collected: 03.25.20 09.22

Date Received: 03.26.20 08.45
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121143

Date Prep: 03.26.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	65.9	9.98	mg/kg	03.26.20 16.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3121138

Date Prep: 03.26.20 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	03.27.20 04.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	03.27.20 04.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	03.27.20 04.14	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	03.27.20 04.14	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	03.27.20 04.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	03.27.20 04.14	
o-Terphenyl	84-15-1	118	%	70-135	03.27.20 04.14	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS14**
 Lab Sample Id: 656965-002

Matrix: Soil
 Date Collected: 03.25.20 09.22

Date Received: 03.26.20 08.45
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121125

Date Prep: 03.26.20 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.26.20 15.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.26.20 15.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	03.26.20 15.26		
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.26.20 15.26		



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS15** Matrix: **Soil** Date Received: 03.26.20 08.45
 Lab Sample Id: 656965-003 Date Collected: 03.25.20 09.31 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.26.20 11.00 Basis: **Wet Weight**
 Seq Number: 3121143

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	97.1	9.98	mg/kg	03.26.20 16.32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 03.26.20 16.00 Basis: **Wet Weight**
 Seq Number: 3121138

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.27.20 04.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.27.20 04.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.27.20 04.35	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	03.27.20 04.35	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.27.20 04.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.27.20 04.35	
o-Terphenyl	84-15-1	121	%	70-135	03.27.20 04.35	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS15** Matrix: **Soil** Date Received: 03.26.20 08.45
 Lab Sample Id: 656965-003 Date Collected: 03.25.20 09.31 Sample Depth: 1.5 ft
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 03.26.20 11.00 Basis: **Wet Weight**
 Seq Number: 3121125

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	03.26.20 16.48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.26.20 16.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.26.20 16.48		
4-Bromofluorobenzene	460-00-4	99	%	70-130	03.26.20 16.48		



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS16**
Lab Sample Id: 656965-004

Matrix: Soil
Date Collected: 03.25.20 09.38

Date Received: 03.26.20 08.45
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121143

Date Prep: 03.26.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	87.9	9.92	mg/kg	03.26.20 16.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3121138

Date Prep: 03.26.20 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.27.20 04.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.27.20 04.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.27.20 04.55	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.27.20 04.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.27.20 04.55	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	109	%	70-135	03.27.20 04.55	
84-15-1	111	%	70-135	03.27.20 04.55	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS16**
 Lab Sample Id: 656965-004

Matrix: Soil
 Date Collected: 03.25.20 09.38

Date Received: 03.26.20 08.45
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121125

Date Prep: 03.26.20 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.26.20 17.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.26.20 17.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.26.20 17.08		
4-Bromofluorobenzene	460-00-4	97	%	70-130	03.26.20 17.08		



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS17**
 Lab Sample Id: 656965-005

Matrix: Soil
 Date Collected: 03.25.20 09.43

Date Received: 03.26.20 08.45
 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121143

Date Prep: 03.26.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.0	10.1	mg/kg	03.26.20 16.57		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3121138

Date Prep: 03.26.20 16.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.27.20 05.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.27.20 05.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.27.20 05.15	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.27.20 05.15	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.27.20 05.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	03.27.20 05.15	
o-Terphenyl	84-15-1	130	%	70-135	03.27.20 05.15	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS17**
 Lab Sample Id: 656965-005

Matrix: Soil
 Date Collected: 03.25.20 09.43

Date Received: 03.26.20 08.45
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.26.20 11.00

Basis: Wet Weight

Seq Number: 3121125

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.26.20 17.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.26.20 17.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.26.20 17.29		
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.26.20 17.29		



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS22
 Lab Sample Id: 656965-006
 Analytical Method: Chloride by EPA 300
 Tech: MAB
 Analyst: MAB
 Seq Number: 3121143

Matrix: Soil
 Date Collected: 03.25.20 11.15
 Date Prep: 03.26.20 11.00

Date Received: 03.26.20 08.45
 Sample Depth: 1.5 ft
 Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	280	10.1	mg/kg	03.26.20 17.03		1

Analytical Method: TPH by SW8015 Mod
 Tech: DTH
 Analyst: DTH
 Seq Number: 3121224

Date Prep: 03.26.20 18.00

Prep Method: SW8015P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.27.20 13.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.27.20 13.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.27.20 13.25	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.27.20 13.25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.27.20 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.27.20 13.25	
o-Terphenyl	84-15-1	116	%	70-135	03.27.20 13.25	



Certificate of Analytical Results 656965

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS22
Lab Sample Id: 656965-006

Matrix: Soil
Date Collected: 03.25.20 11.15

Date Received: 03.26.20 08.45
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121125

Date Prep: 03.26.20 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.26.20 17.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.26.20 17.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.26.20 17.49		
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.26.20 17.49		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3121143

MB Sample Id: 7699820-1-BLK

Matrix: Solid

LCS Sample Id: 7699820-1-BKS

Prep Method: E300P

Date Prep: 03.26.20

LCSD Sample Id: 7699820-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	255	102	90-110	0	20	mg/kg	03.26.20 15:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3121143

Parent Sample Id: 656942-017

Matrix: Soil

MS Sample Id: 656942-017 S

Prep Method: E300P

Date Prep: 03.26.20

MSD Sample Id: 656942-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	208	104	208	105	90-110	0	20	mg/kg	03.26.20 15:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3121143

Parent Sample Id: 656968-002

Matrix: Soil

MS Sample Id: 656968-002 S

Prep Method: E300P

Date Prep: 03.26.20

MSD Sample Id: 656968-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	415	200	631	108	634	110	90-110	0	20	mg/kg	03.26.20 17:21	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121138

MB Sample Id: 7699848-1-BLK

Matrix: Solid

LCS Sample Id: 7699848-1-BKS

Prep Method: SW8015P

Date Prep: 03.26.20

LCSD Sample Id: 7699848-1-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	956	96	951	95	70-135	1	35	mg/kg	03.27.20 00:51	
Diesel Range Organics (DRO)	<50.0	1000	1130	113	1110	111	70-135	2	35	mg/kg	03.27.20 00:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		121		124		70-135	%	03.27.20 00:51
o-Terphenyl	118		129		127		70-135	%	03.27.20 00:51

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121224

MB Sample Id: 7699850-1-BLK

Matrix: Solid

LCS Sample Id: 7699850-1-BKS

Prep Method: SW8015P

Date Prep: 03.26.20

LCSD Sample Id: 7699850-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	999	100	985	99	70-135	1	35	mg/kg	03.27.20 11:22	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1180	118	70-135	6	35	mg/kg	03.27.20 11:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		127		126		70-135	%	03.27.20 11:22
o-Terphenyl	121		120		132		70-135	%	03.27.20 11:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121138

Matrix: Solid

MB Sample Id: 7699848-1-BLK

Prep Method: SW8015P

Date Prep: 03.26.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.27.20 00:31	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121224

Matrix: Solid

MB Sample Id: 7699850-1-BLK

Prep Method: SW8015P

Date Prep: 03.26.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.27.20 11:01	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121138

Matrix: Soil

Parent Sample Id: 656942-014

MS Sample Id: 656942-014 S

Prep Method: SW8015P

Date Prep: 03.26.20

MSD Sample Id: 656942-014 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	998	100	984	98	70-135	1	35	mg/kg	03.27.20 01:52	
Diesel Range Organics (DRO)	<49.9	998	1170	117	1150	115	70-135	2	35	mg/kg	03.27.20 01:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		129		70-135	%	03.27.20 01:52
o-Terphenyl	132		131		70-135	%	03.27.20 01:52

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121224

Parent Sample Id: 656968-001

Matrix: Soil

MS Sample Id: 656968-001 S

Prep Method: SW8015P

Date Prep: 03.26.20

MSD Sample Id: 656968-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	947	95	977	98	70-135	3	35	mg/kg	03.27.20 12:24	
Diesel Range Organics (DRO)	<50.0	1000	1130	113	1140	114	70-135	1	35	mg/kg	03.27.20 12:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		126		70-135	%	03.27.20 12:24
o-Terphenyl	129		130		70-135	%	03.27.20 12:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121125

MB Sample Id: 7699817-1-BLK

Matrix: Solid

LCS Sample Id: 7699817-1-BKS

Prep Method: SW5030B

Date Prep: 03.26.20

LCSD Sample Id: 7699817-1-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	0.114	114	0.109	109	70-130	4	35	mg/kg	03.26.20 10:41	
Toluene	<0.00200	0.100	0.110	110	0.106	106	70-130	4	35	mg/kg	03.26.20 10:41	
Ethylbenzene	<0.00200	0.100	0.104	104	0.100	100	71-129	4	35	mg/kg	03.26.20 10:41	
m,p-Xylenes	<0.00400	0.200	0.216	108	0.208	104	70-135	4	35	mg/kg	03.26.20 10:41	
o-Xylene	<0.00200	0.100	0.108	108	0.104	104	71-133	4	35	mg/kg	03.26.20 10:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		109		108		70-130	%	03.26.20 10:41
4-Bromofluorobenzene	96		92		95		70-130	%	03.26.20 10:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121125

Parent Sample Id: 656941-001

Matrix: Soil

MS Sample Id: 656941-001 S

Prep Method: SW5030B

Date Prep: 03.26.20

MSD Sample Id: 656941-001 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	0.104	105	0.118	118	70-130	13	35	mg/kg	03.26.20 15:47	
Toluene	<0.00198	0.0992	0.0998	101	0.109	109	70-130	9	35	mg/kg	03.26.20 15:47	
Ethylbenzene	<0.00198	0.0992	0.0938	95	0.0929	93	71-129	1	35	mg/kg	03.26.20 15:47	
m,p-Xylenes	<0.00397	0.198	0.193	97	0.184	92	70-135	5	35	mg/kg	03.26.20 15:47	
o-Xylene	<0.00198	0.0992	0.0981	99	0.0905	91	71-133	8	35	mg/kg	03.26.20 15:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		112		70-130	%	03.26.20 15:47
4-Bromofluorobenzene	93		97		70-130	%	03.26.20 15:47

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-1111
Hobbs, NM (575-392-7550)

Work Order No: W709109

Page 1 of 1

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Chain of Custody

Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	wmather@ltenv.com , cmckisson@ltenv.com

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

ANALYSIS REQUEST

Work Order Notes

Project Name:	Breakwater Spill	Turn Around
Project Number:	102720001	Routine ☒
P.O. Number:	Eddy	Rush:
Sampler's Name:	William Mather	Due Date:

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received intact:	Yes	No	Thermometer ID
Cooler Custody Seals:	Yes	No	Correction Factor:
Sample Custody Seals:	Yes	No	Total Containers:

[illegible][illegible]

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	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn
TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U																															
1631 / 245.1 / 7470 / 7471 : Hg																															

Notice: Signature of this document and 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 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 service. 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			3/26/20 8:00am	2 		3/26/20 8:45
3						
5						

Revised Date 05/14/18 Rev. 2018

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.26.2020 08.45.00 AM

Work Order #: 656965

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 03.26.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.27.2020



Analytical Report 657364

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Breakwater Spill

102720001

04.06.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.06.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **657364**

Breakwater Spill

Project Address: Eddy

Chris McKisson:

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) 657364. 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. 657364 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	657364-001	657364-002	657364-003	657364-004	657364-005	657364-006
	Field Id:	FS49	FS50	FS51	FS52	FS53	FS54
	Depth:	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	03.27.2020 13:53	03.27.2020 13:46	03.27.2020 13:41	03.27.2020 13:42	03.27.2020 13:40	03.27.2020 13:38
BTEX by EPA 8021B	Extracted:	04.01.2020 16:24	04.01.2020 16:24	04.01.2020 16:24	04.01.2020 16:24	04.01.2020 16:24	04.01.2020 16:24
	Analyzed:	04.02.2020 17:07	04.02.2020 17:28	04.02.2020 17:48	04.02.2020 18:09	04.02.2020 18:29	04.02.2020 18:50
	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	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398	<0.00397 0.00397	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Xylenes, Total		<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Chloride by EPA 300	Extracted:	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19
	Analyzed:	04.02.2020 08:14	04.02.2020 08:31	04.02.2020 08:37	04.02.2020 08:42	04.02.2020 08:48	04.02.2020 09:05
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		366 10.0	1960 50.0	372 9.96	6030 50.1	451 9.94	570 9.92
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	Analyzed:	04.03.2020 13:05	04.03.2020 14:11	04.03.2020 14:33	04.03.2020 14:55	04.03.2020 15:17	04.03.2020 15:39
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0

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

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	657364-007	657364-008	657364-009	657364-010	657364-011	657364-012
	Field Id:	FS55	FS56	FS57	FS58	FS07	FS08
	Depth:	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	03.27.2020 13:56	03.27.2020 13:58	03.27.2020 14:12	03.27.2020 14:15	03.27.2020 14:35	03.27.2020 14:37
BTEX by EPA 8021B	Extracted:	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28
	Analyzed:	04.01.2020 06:22	04.01.2020 06:43	04.01.2020 07:03	04.01.2020 07:24	04.01.2020 07:44	04.01.2020 08:04
	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	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00397 0.00397	<0.00397 0.00397	<0.00404 0.00404	<0.00400 0.00400	<0.00400 0.00400	<0.00404 0.00404
o-Xylene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
Xylenes, Total		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
Chloride by EPA 300	Extracted:	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19
	Analyzed:	04.02.2020 09:10	04.02.2020 09:16	04.02.2020 09:21	04.02.2020 09:27	04.02.2020 09:32	04.02.2020 09:49
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2140 49.8	845 9.98	35.9 9.92	695 10.0	1520 9.88	1030 9.96
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	Analyzed:	04.03.2020 16:01	04.03.2020 16:23	04.03.2020 16:44	04.03.2020 17:06	04.03.2020 17:50	04.03.2020 18:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-013	657364-014	657364-015	657364-016	657364-017	657364-018
	<i>Field Id:</i>	FS09	FS10	FS11	FS12	FS13	FS59
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.27.2020 14:39	03.27.2020 14:41	03.27.2020 09:00	03.27.2020 09:15	03.27.2020 12:35	03.27.2020 14:35
BTEX by EPA 8021B	<i>Extracted:</i>	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28
	<i>Analyzed:</i>	04.01.2020 08:25	04.01.2020 08:45	04.01.2020 09:06	04.01.2020 10:07	04.01.2020 10:27	04.01.2020 10:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
m,p-Xylenes		<0.00402 0.00402	<0.00403 0.00403	<0.00403 0.00403	<0.00402 0.00402	<0.00403 0.00403	<0.00404 0.00404
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Xylenes, Total		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 07:19
	<i>Analyzed:</i>	04.02.2020 09:55	04.02.2020 10:11	04.02.2020 10:17	04.02.2020 10:23	04.02.2020 10:28	04.02.2020 10:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1160 9.98	516 10.0	463 10.0	688 9.96	416 9.96	4260 49.9
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	<i>Analyzed:</i>	04.03.2020 18:36	04.03.2020 18:58	04.03.2020 19:20	04.03.2020 19:42	04.03.2020 20:04	04.03.2020 20:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total GRO-DRO		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-019	657364-020	657364-021	657364-022	657364-023	657364-024
	<i>Field Id:</i>	FS60	FS61	FS62	FS01	FS02	FS03
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.27.2020 14:37	03.27.2020 14:39	03.27.2020 14:41	03.27.2020 09:00	03.27.2020 09:15	03.27.2020 12:35
BTEX by EPA 8021B	<i>Extracted:</i>	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	03.31.2020 19:28	04.01.2020 10:06	04.01.2020 10:06
	<i>Analyzed:</i>	04.01.2020 06:02	04.01.2020 11:08	04.01.2020 11:29	04.01.2020 11:49	04.01.2020 16:56	04.01.2020 18:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404	<0.00403 0.00403	<0.00398 0.00398	<0.00398 0.00398	<0.00397 0.00397
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
Xylenes, Total		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 07:19	04.02.2020 07:19	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22
	<i>Analyzed:</i>	04.02.2020 10:51	04.02.2020 10:57	04.02.2020 11:31	04.02.2020 11:47	04.02.2020 11:53	04.02.2020 11:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12.4 9.88	<9.96 9.96	256 X 10.0	207 10.1	586 10.1	1570 9.98
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	<i>Analyzed:</i>	04.03.2020 20:48	04.03.2020 21:10	04.03.2020 22:58	04.04.2020 00:04	04.04.2020 00:26	04.04.2020 00:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-025	657364-026	657364-027	657364-028	657364-029	657364-030
	<i>Field Id:</i>	FS04	FS05	FS06	FS29	FS30	FS31
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.27.2020 13:02	03.27.2020 13:15	03.27.2020 15:28	03.27.2020 12:44	03.27.2020 13:05	03.27.2020 09:52
BTEX by EPA 8021B	<i>Extracted:</i>	04.01.2020 10:06	04.01.2020 10:06	03.31.2020 17:21	03.31.2020 17:21	03.31.2020 17:21	03.31.2020 17:21
	<i>Analyzed:</i>	04.01.2020 18:58	04.01.2020 19:19	04.01.2020 04:31	04.01.2020 04:51	04.01.2020 05:12	04.01.2020 05:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401	<0.00398 0.00398	<0.00400 0.00400	<0.00396 0.00396	<0.00399 0.00399
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Xylenes, Total		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22
	<i>Analyzed:</i>	04.02.2020 12:04	04.02.2020 12:21	04.02.2020 12:26	04.02.2020 12:32	04.02.2020 12:38	04.02.2020 12:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1570 50.1	1550 49.7	1550 49.5	7080 49.9	400 9.96	286 9.98
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	<i>Analyzed:</i>	04.04.2020 01:09	04.04.2020 01:31	04.04.2020 01:53	04.04.2020 02:15	04.04.2020 02:37	04.04.2020 02:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total TPH		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	657364-031	657364-032	657364-033	657364-034	657364-035	657364-036
	Field Id:	FS32	FS33	FS34	FS35	FS36	FS37
	Depth:	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	03.27.2020 10:50	03.27.2020 11:27	03.27.2020 11:39	03.27.2020 11:52	03.27.2020 12:51	03.27.2020 13:04
BTEX by EPA 8021B	Extracted:	03.31.2020 17:21	03.31.2020 17:21	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06
	Analyzed:	04.01.2020 05:52	04.01.2020 06:13	04.01.2020 19:39	04.01.2020 19:59	04.01.2020 21:01	04.01.2020 21:21
	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	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00396 0.00396	<0.00399 0.00399	<0.00403 0.00403
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Xylenes, Total		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Chloride by EPA 300	Extracted:	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22
	Analyzed:	04.02.2020 12:50	04.02.2020 13:08	04.02.2020 13:14	04.02.2020 13:32	04.02.2020 13:38	04.02.2020 13:44
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4560 X 49.6	6100 49.6	3200 49.5	218 9.98	182 9.96	130 9.92
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00
	Analyzed:	04.04.2020 03:43	04.04.2020 04:05	04.04.2020 04:27	04.04.2020 04:49	04.04.2020 05:10	04.04.2020 05:32
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		52.8 50.0	<49.9 49.9	<50.0 50.0	<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	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total GRO-DRO		52.8 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		52.8 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-037	657364-038	657364-039	657364-040	657364-041	657364-042
	<i>Field Id:</i>	FS38	FS39	FS40	FS41	FS42	FS43
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.27.2020 13:43	03.27.2020 13:48	03.27.2020 14:02	03.27.2020 14:08	03.27.2020 14:24	03.27.2020 14:23
BTEX by EPA 8021B	<i>Extracted:</i>	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 10:06
	<i>Analyzed:</i>	04.01.2020 21:41	04.01.2020 22:02	04.01.2020 22:22	04.01.2020 22:43	04.01.2020 23:03	04.01.2020 23:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00403 0.00403	<0.00400 0.00400	<0.00396 0.00396	<0.00398 0.00398	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Xylenes, Total		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:22	04.02.2020 10:25	04.02.2020 10:25
	<i>Analyzed:</i>	04.02.2020 13:50	04.02.2020 13:56	04.02.2020 14:02	04.02.2020 14:08	04.02.2020 14:44	04.02.2020 15:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1210 10.0	361 9.96	51.7 10.0	4580 49.8	32.9 9.94	195 9.94
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 10:00	04.03.2020 13:00	04.03.2020 13:00
	<i>Analyzed:</i>	04.04.2020 05:54	04.04.2020 06:15	04.04.2020 06:37	04.04.2020 06:59	04.03.2020 13:05	04.03.2020 14:11
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-043	657364-044	657364-045	657364-046	657364-047	657364-048
	<i>Field Id:</i>	FS44	FS45	FS46	FS47	FS48	FS18
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.27.2020 14:31	03.27.2020 14:35	03.27.2020 14:17	03.27.2020 14:05	03.27.2020 13:56	03.26.2020 10:13
BTEX by EPA 8021B	<i>Extracted:</i>	04.01.2020 10:06	04.01.2020 10:06	04.01.2020 20:09	04.01.2020 20:09	04.01.2020 20:09	04.01.2020 20:09
	<i>Analyzed:</i>	04.01.2020 23:44	04.02.2020 00:04	04.02.2020 03:08	04.02.2020 08:54	04.02.2020 09:15	04.02.2020 09:35
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Xylenes, Total		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25
	<i>Analyzed:</i>	04.02.2020 15:09	04.02.2020 15:15	04.02.2020 15:21	04.02.2020 15:40	04.02.2020 15:46	04.02.2020 15:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		46.1 9.88	26.2 9.96	52.2 10.0	57.2 10.0	989 9.92	26.2 9.98
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00
	<i>Analyzed:</i>	04.03.2020 14:33	04.03.2020 14:55	04.03.2020 15:17	04.03.2020 15:39	04.03.2020 16:01	04.03.2020 16:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657364-049	657364-050	657364-051	657364-052	657364-053	657364-054
	<i>Field Id:</i>	FS19	FS20	FS21	FS23	FS24	FS25
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.26.2020 11:25	03.26.2020 11:30	03.26.2020 11:58	03.26.2020 12:58	03.26.2020 09:56	03.26.2020 10:42
BTEX by EPA 8021B	<i>Extracted:</i>	04.01.2020 20:09	04.01.2020 20:09	04.02.2020 17:35	04.02.2020 17:35	04.02.2020 17:35	04.02.2020 17:35
	<i>Analyzed:</i>	04.02.2020 09:56	04.02.2020 10:16	04.03.2020 00:16	04.03.2020 00:37	04.03.2020 00:57	04.03.2020 01:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00403 0.00403	<0.00404 0.00404	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00400 0.00400
o-Xylene		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Xylenes, Total		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25	04.02.2020 10:25
	<i>Analyzed:</i>	04.02.2020 15:58	04.02.2020 16:04	04.02.2020 16:10	04.02.2020 16:28	04.02.2020 16:34	04.02.2020 16:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1270 49.9	1090 10.0	34.1 9.96	39.2 9.96	39.9 9.98	1480 10.0
TPH by SW8015 Mod SUB: T104704400-19-19	<i>Extracted:</i>	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00
	<i>Analyzed:</i>	04.03.2020 16:44	04.03.2020 17:06	04.03.2020 17:50	04.03.2020 18:14	04.03.2020 18:36	04.03.2020 18:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 657364

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy

Date Received in Lab: Mon 03.30.2020 17:27
Report Date: 04.06.2020 14:35
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	657364-055	657364-056	657364-057			
	Field Id:	FS26	FS27	FS28			
	Depth:	1.5- ft	1.5- ft	1.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	03.26.2020 11:06	03.26.2020 11:44	03.26.2020 11:47			
BTEX by EPA 8021B	Extracted:	04.02.2020 17:35	04.02.2020 17:35	04.02.2020 17:35			
	Analyzed:	04.03.2020 01:38	04.03.2020 02:59	04.03.2020 03:20			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
	Benzene	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
	Toluene	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
	Ethylbenzene	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
	m,p-Xylenes	<0.00401 0.00401	<0.00403 0.00403	<0.00398 0.00398			
	o-Xylene	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
	Xylenes, Total	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
	Total BTEX	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Chloride by EPA 300	Extracted:	04.02.2020 10:25	04.01.2020 12:15	04.01.2020 12:15			
	Analyzed:	04.02.2020 16:58	04.01.2020 18:23	04.01.2020 18:28			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
	Chloride	2910 50.2	234 10.0	286 10.1			
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	04.03.2020 13:00	04.03.2020 13:00	04.03.2020 13:00			
	Analyzed:	04.03.2020 19:20	04.03.2020 19:42	04.03.2020 20:04			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<49.9 49.9	<50.0 50.0			
	Diesel Range Organics (DRO)	<50.0 50.0	<49.9 49.9	<50.0 50.0			
	Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0	<49.9 49.9	<50.0 50.0			
	Total GRO-DRO	<50.0 50.0	<49.9 49.9	<50.0 50.0			
	Total TPH	<50.0 50.0	<49.9 49.9	<50.0 50.0			

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Jessica Kramer

Jessica Kramer
Project Manager



Sample Cross Reference 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS49	S	03.27.2020 13:53	1.5 ft	657364-001
FS50	S	03.27.2020 13:46	1.5 ft	657364-002
FS51	S	03.27.2020 13:41	1.5 ft	657364-003
FS52	S	03.27.2020 13:42	1.5 ft	657364-004
FS53	S	03.27.2020 13:40	1.5 ft	657364-005
FS54	S	03.27.2020 13:38	1.5 ft	657364-006
FS55	S	03.27.2020 13:56	1.5 ft	657364-007
FS56	S	03.27.2020 13:58	1.5 ft	657364-008
FS57	S	03.27.2020 14:12	1.5 ft	657364-009
FS58	S	03.27.2020 14:15	1.5 ft	657364-010
FS07	S	03.27.2020 14:35	1.5 ft	657364-011
FS08	S	03.27.2020 14:37	1.5 ft	657364-012
FS09	S	03.27.2020 14:39	1.5 ft	657364-013
FS10	S	03.27.2020 14:41	1.5 ft	657364-014
FS11	S	03.27.2020 09:00	1.5 ft	657364-015
FS12	S	03.27.2020 09:15	1.5 ft	657364-016
FS13	S	03.27.2020 12:35	1.5 ft	657364-017
FS59	S	03.27.2020 14:35	1.5 ft	657364-018
FS60	S	03.27.2020 14:37	1.5 ft	657364-019
FS61	S	03.27.2020 14:39	1.5 ft	657364-020
FS62	S	03.27.2020 14:41	1.5 ft	657364-021
FS01	S	03.27.2020 09:00	1.5 ft	657364-022
FS02	S	03.27.2020 09:15	1.5 ft	657364-023
FS03	S	03.27.2020 12:35	1.5 ft	657364-024
FS04	S	03.27.2020 13:02	1.5 ft	657364-025
FS05	S	03.27.2020 13:15	1.5 ft	657364-026
FS06	S	03.27.2020 15:28	1.5 ft	657364-027
FS29	S	03.27.2020 12:44	1.5 ft	657364-028
FS30	S	03.27.2020 13:05	1.5 ft	657364-029
FS31	S	03.27.2020 09:52	1.5 ft	657364-030
FS32	S	03.27.2020 10:50	1.5 ft	657364-031
FS33	S	03.27.2020 11:27	1.5 ft	657364-032
FS34	S	03.27.2020 11:39	1.5 ft	657364-033
FS35	S	03.27.2020 11:52	1.5 ft	657364-034
FS36	S	03.27.2020 12:51	1.5 ft	657364-035
FS37	S	03.27.2020 13:04	1.5 ft	657364-036
FS38	S	03.27.2020 13:43	1.5 ft	657364-037
FS39	S	03.27.2020 13:48	1.5 ft	657364-038
FS40	S	03.27.2020 14:02	1.5 ft	657364-039
FS41	S	03.27.2020 14:08	1.5 ft	657364-040
FS42	S	03.27.2020 14:24	1.5 ft	657364-041
FS43	S	03.27.2020 14:23	1.5 ft	657364-042
FS44	S	03.27.2020 14:31	1.5 ft	657364-043



Sample Cross Reference 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

FS45	S	03.27.2020 14:35	1.5 ft	657364-044
FS46	S	03.27.2020 14:17	1.5 ft	657364-045
FS47	S	03.27.2020 14:05	1.5 ft	657364-046
FS48	S	03.27.2020 13:56	1.5 ft	657364-047
FS18	S	03.26.2020 10:13	1.5 ft	657364-048
FS19	S	03.26.2020 11:25	1.5 ft	657364-049
FS20	S	03.26.2020 11:30	1.5 ft	657364-050
FS21	S	03.26.2020 11:58	1.5 ft	657364-051
FS23	S	03.26.2020 12:58	1.5 ft	657364-052
FS24	S	03.26.2020 09:56	1.5 ft	657364-053
FS25	S	03.26.2020 10:42	1.5 ft	657364-054
FS26	S	03.26.2020 11:06	1.5 ft	657364-055
FS27	S	03.26.2020 11:44	1.5 ft	657364-056
FS28	S	03.26.2020 11:47	1.5 ft	657364-057

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Breakwater Spill**Project ID: 102720001
Work Order Number(s): 657364Report Date: 04.06.2020
Date Received: 03.30.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121565 BTEX by EPA 8021B

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

Batch: LBA-3121570 BTEX by EPA 8021B

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

Batch: LBA-3121698 BTEX by EPA 8021B

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

Batch: LBA-3121699 BTEX by EPA 8021B

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

Batch: LBA-3121792 Chloride by EPA 300

Lab Sample ID 657364-031 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 657364-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -040.

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

Batch: LBA-3121835 BTEX by EPA 8021B

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

Batch: LBA-3121837 BTEX by EPA 8021B

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



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS49**
Lab Sample Id: 657364-001

Matrix: Soil
Date Collected: 03.27.2020 13:53

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121791

Date Prep: 04.02.2020 07:19

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	366	10.0	mg/kg	04.02.2020 08:14		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122016

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	04.03.2020 13:05	
o-Terphenyl	84-15-1	94	%	70-130	04.03.2020 13:05	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS49**
 Lab Sample Id: 657364-001

Matrix: Soil
 Date Collected: 03.27.2020 13:53

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.02.2020 17:07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.02.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	04.02.2020 17:07	
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.02.2020 17:07	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS50** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-002 Date Collected: 03.27.2020 13:46 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1960	50.0	mg/kg	04.02.2020 08:31		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 14:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 14:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 14:11	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 14:11	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 14:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	04.03.2020 14:11	
o-Terphenyl	84-15-1	93	%	70-130	04.03.2020 14:11	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS50**
 Lab Sample Id: 657364-002

Matrix: Soil
 Date Collected: 03.27.2020 13:46

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.02.2020 17:28	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.02.2020 17:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.02.2020 17:28	
4-Bromofluorobenzene	460-00-4	90	%	70-130	04.02.2020 17:28	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS51** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-003 Date Collected: 03.27.2020 13:41 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 07:19 Basis: **Wet Weight**
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	372	9.96	mg/kg	04.02.2020 08:37		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122016 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	04.03.2020 14:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	04.03.2020 14:33	
o-Terphenyl	84-15-1	91	%	70-130	04.03.2020 14:33	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS51**
 Lab Sample Id: 657364-003

Matrix: Soil
 Date Collected: 03.27.2020 13:41

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.02.2020 17:48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.02.2020 17:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.02.2020 17:48		
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.02.2020 17:48		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS52 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-004 Date Collected: 03.27.2020 13:42 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6030	50.1	mg/kg	04.02.2020 08:42		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 14:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.03.2020 14:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.03.2020 14:55	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.03.2020 14:55	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.03.2020 14:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	04.03.2020 14:55	
o-Terphenyl	84-15-1	95	%	70-130	04.03.2020 14:55	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS52
Lab Sample Id: 657364-004

Matrix: Soil
Date Collected: 03.27.2020 13:42

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.2020 18:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.2020 18:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.02.2020 18:09	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.02.2020 18:09	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS53** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-005 Date Collected: 03.27.2020 13:40 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 07:19 Basis: **Wet Weight**
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	451	9.94	mg/kg	04.02.2020 08:48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122016 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	04.03.2020 15:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 15:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 15:17	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 15:17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 15:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	04.03.2020 15:17	
o-Terphenyl	84-15-1	96	%	70-130	04.03.2020 15:17	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS53**
 Lab Sample Id: 657364-005

Matrix: Soil
 Date Collected: 03.27.2020 13:40

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.02.2020 18:29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.02.2020 18:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 18:29	
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.02.2020 18:29	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS54** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-006 Date Collected: 03.27.2020 13:38 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 07:19 Basis: **Wet Weight**
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	570	9.92	mg/kg	04.02.2020 09:05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122016 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	04.03.2020 15:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.03.2020 15:39	
o-Terphenyl	84-15-1	97	%	70-130	04.03.2020 15:39	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS54**
 Lab Sample Id: 657364-006

Matrix: Soil
 Date Collected: 03.27.2020 13:38

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 16:24

Basis: Wet Weight

Seq Number: 3121835

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.2020 18:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.2020 18:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.02.2020 18:50	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.02.2020 18:50	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS55
Lab Sample Id: 657364-007

Matrix: Soil
Date Collected: 03.27.2020 13:56

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.01.2020 06:22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 06:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.01.2020 06:22	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 06:22	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS56** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-008 Date Collected: 03.27.2020 13:58 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 07:19 Basis: **Wet Weight**
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	845	9.98	mg/kg	04.02.2020 09:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122016 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	04.03.2020 16:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 16:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 16:23	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 16:23	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 16:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	04.03.2020 16:23	
o-Terphenyl	84-15-1	96	%	70-130	04.03.2020 16:23	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS56**
 Lab Sample Id: 657364-008

Matrix: Soil
 Date Collected: 03.27.2020 13:58

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.01.2020 06:43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 06:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 06:43	
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.01.2020 06:43	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS57 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-009 Date Collected: 03.27.2020 14:12 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.9	9.92	mg/kg	04.02.2020 09:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 16:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.03.2020 16:44	
o-Terphenyl	84-15-1	101	%	70-130	04.03.2020 16:44	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS57
Lab Sample Id: 657364-009

Matrix: Soil
Date Collected: 03.27.2020 14:12

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.01.2020 07:03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 07:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 07:03		
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.01.2020 07:03		



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS58**
Lab Sample Id: 657364-010

Matrix: Soil
Date Collected: 03.27.2020 14:15

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121791

Date Prep: 04.02.2020 07:19

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	695	10.0	mg/kg	04.02.2020 09:27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122016

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	04.03.2020 17:06	
o-Terphenyl	84-15-1	97	%	70-130	04.03.2020 17:06	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS58**
 Lab Sample Id: 657364-010

Matrix: Soil
 Date Collected: 03.27.2020 14:15

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.01.2020 07:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 07:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 07:24	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 07:24	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS07** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-011 Date Collected: 03.27.2020 14:35 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1520	9.88	mg/kg	04.02.2020 09:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 17:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 17:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 17:50	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 17:50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 17:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-130	04.03.2020 17:50	
o-Terphenyl	84-15-1	81	%	70-130	04.03.2020 17:50	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS07**
 Lab Sample Id: 657364-011

Matrix: Soil
 Date Collected: 03.27.2020 14:35

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.01.2020 07:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 07:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 07:44		
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 07:44		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS08**
Lab Sample Id: 657364-012

Matrix: Soil
Date Collected: 03.27.2020 14:37

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121791

Date Prep: 04.02.2020 07:19

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1030	9.96	mg/kg	04.02.2020 09:49		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122016

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 18:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 18:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 18:14	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 18:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 18:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.03.2020 18:14	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 18:14	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS08**
 Lab Sample Id: 657364-012

Matrix: Soil
 Date Collected: 03.27.2020 14:37

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.01.2020 08:04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 08:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.2020 08:04	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 08:04	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS09** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-013 Date Collected: 03.27.2020 14:39 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1160	9.98	mg/kg	04.02.2020 09:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 18:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 18:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 18:36	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 18:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 18:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.03.2020 18:36	
o-Terphenyl	84-15-1	102	%	70-130	04.03.2020 18:36	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS09**
Lab Sample Id: 657364-013

Matrix: Soil
Date Collected: 03.27.2020 14:39

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.01.2020 08:25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.01.2020 08:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 08:25	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 08:25	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS10**
Lab Sample Id: 657364-014

Matrix: Soil
Date Collected: 03.27.2020 14:41

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121791

Date Prep: 04.02.2020 07:19

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	516	10.0	mg/kg	04.02.2020 10:11		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122016

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.03.2020 18:58	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 18:58	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS10**
 Lab Sample Id: 657364-014

Matrix: Soil
 Date Collected: 03.27.2020 14:41

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 08:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 08:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.01.2020 08:45		
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 08:45		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS11** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-015 Date Collected: 03.27.2020 09:00 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	463	10.0	mg/kg	04.02.2020 10:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 19:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.03.2020 19:20	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 19:20	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS11**
 Lab Sample Id: 657364-015

Matrix: Soil
 Date Collected: 03.27.2020 09:00

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 09:06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 09:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 09:06	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 09:06	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS12** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-016 Date Collected: 03.27.2020 09:15 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	688	9.96	mg/kg	04.02.2020 10:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 19:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 19:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 19:42	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 19:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 19:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.03.2020 19:42	
o-Terphenyl	84-15-1	99	%	70-130	04.03.2020 19:42	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS12**
 Lab Sample Id: 657364-016

Matrix: Soil
 Date Collected: 03.27.2020 09:15

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.01.2020 10:07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.01.2020 10:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 10:07		
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 10:07		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS13** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-017 Date Collected: 03.27.2020 12:35 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	416	9.96	mg/kg	04.02.2020 10:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 20:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 20:04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 20:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 20:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	04.03.2020 20:04	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 20:04	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS13**
Lab Sample Id: 657364-017

Matrix: Soil
Date Collected: 03.27.2020 12:35

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121570

Prep Method: SW5030B

% Moisture:

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 10:27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 10:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 10:27		
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 10:27		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS59** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-018 Date Collected: 03.27.2020 14:35 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4260	49.9	mg/kg	04.02.2020 10:34		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 20:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 20:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 20:26	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 20:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 20:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.03.2020 20:26	
o-Terphenyl	84-15-1	99	%	70-130	04.03.2020 20:26	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS59**
 Lab Sample Id: 657364-018

Matrix: Soil
 Date Collected: 03.27.2020 14:35

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.01.2020 10:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 10:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 10:48		
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 10:48		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS60**
Lab Sample Id: 657364-019

Matrix: Soil
Date Collected: 03.27.2020 14:37

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121791

Date Prep: 04.02.2020 07:19

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.88	mg/kg	04.02.2020 10:51		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122016

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	04.03.2020 20:48	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 20:48	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS60**
 Lab Sample Id: 657364-019

Matrix: Soil
 Date Collected: 03.27.2020 14:37

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.01.2020 06:02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.01.2020 06:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.2020 06:02		
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.01.2020 06:02		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS61** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-020 Date Collected: 03.27.2020 14:39 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 07:19 Basis: Wet Weight
 Seq Number: 3121791

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	04.02.2020 10:57	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122016 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	04.03.2020 21:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 21:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 21:10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 21:10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 21:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.03.2020 21:10	
o-Terphenyl	84-15-1	95	%	70-130	04.03.2020 21:10	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS61**
 Lab Sample Id: 657364-020

Matrix: Soil
 Date Collected: 03.27.2020 14:39

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.01.2020 11:08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 11:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.01.2020 11:08	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.01.2020 11:08	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS62**
Lab Sample Id: 657364-021

Matrix: Soil
Date Collected: 03.27.2020 14:41

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121792

Date Prep: 04.02.2020 10:22

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	256	10.0	mg/kg	04.02.2020 11:31	X	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122018

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	04.03.2020 22:58	
o-Terphenyl	84-15-1	105	%	70-130	04.03.2020 22:58	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS62**
 Lab Sample Id: 657364-021

Matrix: Soil
 Date Collected: 03.27.2020 14:41

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Seq Number: 3121570

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 11:29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 11:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 11:29		
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.01.2020 11:29		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS01** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-022 Date Collected: 03.27.2020 09:00 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	207	10.1	mg/kg	04.02.2020 11:47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 00:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 00:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 00:04	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 00:04	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 00:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.04.2020 00:04	
o-Terphenyl	84-15-1	99	%	70-130	04.04.2020 00:04	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS01**
 Lab Sample Id: 657364-022

Matrix: Soil
 Date Collected: 03.27.2020 09:00

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121570

Prep Method: SW5030B

% Moisture:

Date Prep: 03.31.2020 19:28

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 11:49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 11:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 11:49	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.2020 11:49	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS02** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-023 Date Collected: 03.27.2020 09:15 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	586	10.1	mg/kg	04.02.2020 11:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 00:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.04.2020 00:26	
o-Terphenyl	84-15-1	97	%	70-130	04.04.2020 00:26	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS02**
Lab Sample Id: 657364-023

Matrix: Soil
Date Collected: 03.27.2020 09:15

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121699

Prep Method: SW5030B

% Moisture:

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 16:56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 16:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.01.2020 16:56	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.01.2020 16:56	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS03** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-024 Date Collected: 03.27.2020 12:35 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1570	9.98	mg/kg	04.02.2020 11:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 00:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	04.04.2020 00:47	
o-Terphenyl	84-15-1	98	%	70-130	04.04.2020 00:47	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS03**
 Lab Sample Id: 657364-024

Matrix: Soil
 Date Collected: 03.27.2020 12:35

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.01.2020 18:38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 18:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.2020 18:38	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 18:38	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS04** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-025 Date Collected: 03.27.2020 13:02 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1570	50.1	mg/kg	04.02.2020 12:04		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 01:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 01:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 01:09	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 01:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 01:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.04.2020 01:09	
o-Terphenyl	84-15-1	99	%	70-130	04.04.2020 01:09	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS04**
Lab Sample Id: 657364-025

Matrix: Soil
Date Collected: 03.27.2020 13:02

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121699

Prep Method: SW5030B

% Moisture:

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 18:58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 18:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.01.2020 18:58	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 18:58	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS05** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-026 Date Collected: 03.27.2020 13:15 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1550	49.7	mg/kg	04.02.2020 12:21		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 01:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 01:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 01:31	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 01:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 01:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.04.2020 01:31	
o-Terphenyl	84-15-1	101	%	70-130	04.04.2020 01:31	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS05**
 Lab Sample Id: 657364-026

Matrix: Soil
 Date Collected: 03.27.2020 13:15

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.01.2020 19:19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 19:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.01.2020 19:19	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 19:19	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS06** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-027 Date Collected: 03.27.2020 15:28 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1550	49.5	mg/kg	04.02.2020 12:26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 01:53	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 01:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	04.04.2020 01:53	
o-Terphenyl	84-15-1	100	%	70-130	04.04.2020 01:53	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS06**
Lab Sample Id: 657364-027

Matrix: Soil
Date Collected: 03.27.2020 15:28

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121565

Prep Method: SW5030B

% Moisture:

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 04:31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 04:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.01.2020 04:31	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.01.2020 04:31	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS29**
Lab Sample Id: 657364-028

Matrix: Soil
Date Collected: 03.27.2020 12:44

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121792

Date Prep: 04.02.2020 10:22

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7080	49.9	mg/kg	04.02.2020 12:32		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122018

Date Prep: 04.03.2020 10:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.04.2020 02:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 02:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 02:15	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 02:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 02:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	04.04.2020 02:15	
o-Terphenyl	84-15-1	103	%	70-130	04.04.2020 02:15	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS29**
 Lab Sample Id: 657364-028

Matrix: Soil
 Date Collected: 03.27.2020 12:44

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Seq Number: 3121565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.01.2020 04:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 04:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.01.2020 04:51	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.01.2020 04:51	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS30** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-029 Date Collected: 03.27.2020 13:05 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	400	9.96	mg/kg	04.02.2020 12:38		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 02:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 02:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 02:37	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 02:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 02:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.04.2020 02:37	
o-Terphenyl	84-15-1	101	%	70-130	04.04.2020 02:37	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS30**
 Lab Sample Id: 657364-029

Matrix: Soil
 Date Collected: 03.27.2020 13:05

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Seq Number: 3121565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.01.2020 05:12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 05:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.01.2020 05:12	
1,4-Difluorobenzene	540-36-3	115	%	70-130	04.01.2020 05:12	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS31** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-030 Date Collected: 03.27.2020 09:52 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:22 Basis: **Wet Weight**
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	286	9.98	mg/kg	04.02.2020 12:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122018 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	04.04.2020 02:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	04.04.2020 02:59	
o-Terphenyl	84-15-1	91	%	70-130	04.04.2020 02:59	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS31**
 Lab Sample Id: 657364-030

Matrix: Soil
 Date Collected: 03.27.2020 09:52

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Seq Number: 3121565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.01.2020 05:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 05:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.01.2020 05:32		
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.01.2020 05:32		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS32** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-031 Date Collected: 03.27.2020 10:50 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:22 Basis: **Wet Weight**
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4560	49.6	mg/kg	04.02.2020 12:50	X	5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122018 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	04.04.2020 03:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	52.8	50.0	mg/kg	04.04.2020 03:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1
Total GRO-DRO	PHC628	52.8	50.0	mg/kg	04.04.2020 03:43		1
Total TPH	PHC635	52.8	50.0	mg/kg	04.04.2020 03:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	04.04.2020 03:43	
o-Terphenyl	84-15-1	96	%	70-130	04.04.2020 03:43	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS32**
 Lab Sample Id: 657364-031

Matrix: Soil
 Date Collected: 03.27.2020 10:50

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Seq Number: 3121565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 05:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 05:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.01.2020 05:52	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.01.2020 05:52	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS33** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-032 Date Collected: 03.27.2020 11:27 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:22 Basis: **Wet Weight**
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6100	49.6	mg/kg	04.02.2020 13:08		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122018 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	04.04.2020 04:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	04.04.2020 04:05	
o-Terphenyl	84-15-1	97	%	70-130	04.04.2020 04:05	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS33**
 Lab Sample Id: 657364-032

Matrix: Soil
 Date Collected: 03.27.2020 11:27

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 03.31.2020 17:21

Basis: Wet Weight

Seq Number: 3121565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 06:13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 06:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.01.2020 06:13	
1,4-Difluorobenzene	540-36-3	115	%	70-130	04.01.2020 06:13	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS34** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-033 Date Collected: 03.27.2020 11:39 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:22 Basis: **Wet Weight**
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3200	49.5	mg/kg	04.02.2020 13:14		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122018 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	04.04.2020 04:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.04.2020 04:27	
o-Terphenyl	84-15-1	101	%	70-130	04.04.2020 04:27	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS34**
 Lab Sample Id: 657364-033

Matrix: Soil
 Date Collected: 03.27.2020 11:39

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 19:39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 19:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.2020 19:39	
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.01.2020 19:39	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS35 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-034 Date Collected: 03.27.2020 11:52 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	218	9.98	mg/kg	04.02.2020 13:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 04:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 04:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 04:49	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 04:49	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 04:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.04.2020 04:49	
o-Terphenyl	84-15-1	100	%	70-130	04.04.2020 04:49	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS35
Lab Sample Id: 657364-034

Matrix: Soil
Date Collected: 03.27.2020 11:52

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.01.2020 19:59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 19:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.01.2020 19:59	
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.01.2020 19:59	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS36** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-035 Date Collected: 03.27.2020 12:51 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:22 Basis: **Wet Weight**
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	182	9.96	mg/kg	04.02.2020 13:38		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 10:00 Basis: **Wet Weight**
 Seq Number: 3122018 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	04.04.2020 05:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 05:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 05:10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 05:10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 05:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	04.04.2020 05:10	
o-Terphenyl	84-15-1	103	%	70-130	04.04.2020 05:10	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS36**
 Lab Sample Id: 657364-035

Matrix: Soil
 Date Collected: 03.27.2020 12:51

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.01.2020 21:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 21:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 21:01	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.01.2020 21:01	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS37 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-036 Date Collected: 03.27.2020 13:04 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	130	9.92	mg/kg	04.02.2020 13:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 05:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 05:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 05:32	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 05:32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 05:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	04.04.2020 05:32	
o-Terphenyl	84-15-1	101	%	70-130	04.04.2020 05:32	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS37
Lab Sample Id: 657364-036

Matrix: Soil
Date Collected: 03.27.2020 13:04

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 21:21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 21:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.01.2020 21:21	
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.01.2020 21:21	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS38** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-037 Date Collected: 03.27.2020 13:43 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1210	10.0	mg/kg	04.02.2020 13:50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 05:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 05:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 05:54	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 05:54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 05:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	04.04.2020 05:54	
o-Terphenyl	84-15-1	99	%	70-130	04.04.2020 05:54	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS38**
 Lab Sample Id: 657364-037

Matrix: Soil
 Date Collected: 03.27.2020 13:43

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121699

Prep Method: SW5030B

% Moisture:

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 21:41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 21:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.01.2020 21:41	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.01.2020 21:41	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS39** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-038 Date Collected: 03.27.2020 13:48 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	9.96	mg/kg	04.02.2020 13:56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 06:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 06:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 06:15	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 06:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 06:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.04.2020 06:15	
o-Terphenyl	84-15-1	106	%	70-130	04.04.2020 06:15	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS39**
 Lab Sample Id: 657364-038

Matrix: Soil
 Date Collected: 03.27.2020 13:48

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.01.2020 22:02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 22:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 22:02	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 22:02	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS40** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-039 Date Collected: 03.27.2020 14:02 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.7	10.0	mg/kg	04.02.2020 14:02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 06:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 06:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 06:37	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 06:37	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 06:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	04.04.2020 06:37	
o-Terphenyl	84-15-1	99	%	70-130	04.04.2020 06:37	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS40**
 Lab Sample Id: 657364-039

Matrix: Soil
 Date Collected: 03.27.2020 14:02

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.01.2020 22:22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.01.2020 22:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.01.2020 22:22	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 22:22	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS41** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-040 Date Collected: 03.27.2020 14:08 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:22 Basis: Wet Weight
 Seq Number: 3121792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4580	49.8	mg/kg	04.02.2020 14:08		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 10:00 Basis: Wet Weight
 Seq Number: 3122018 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	04.04.2020 06:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	04.04.2020 06:59	
o-Terphenyl	84-15-1	102	%	70-130	04.04.2020 06:59	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS41**
 Lab Sample Id: 657364-040

Matrix: Soil
 Date Collected: 03.27.2020 14:08

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121699

Prep Method: SW5030B

% Moisture:

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.2020 22:43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.2020 22:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 22:43	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.01.2020 22:43	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS42** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-041 Date Collected: 03.27.2020 14:24 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.9	9.94	mg/kg	04.02.2020 14:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 13:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 13:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	04.03.2020 13:05	
o-Terphenyl	84-15-1	110	%	70-130	04.03.2020 13:05	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS42**
Lab Sample Id: 657364-041

Matrix: Soil
Date Collected: 03.27.2020 14:24

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.01.2020 23:03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 23:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.01.2020 23:03		
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.01.2020 23:03		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS43** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-042 Date Collected: 03.27.2020 14:23 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	195	9.94	mg/kg	04.02.2020 15:03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 14:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 14:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 14:11	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 14:11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 14:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.03.2020 14:11	
o-Terphenyl	84-15-1	103	%	70-130	04.03.2020 14:11	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS43**
 Lab Sample Id: 657364-042

Matrix: Soil
 Date Collected: 03.27.2020 14:23

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.01.2020 23:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.2020 23:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	04.01.2020 23:23	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.01.2020 23:23	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS44** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-043 Date Collected: 03.27.2020 14:31 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.1	9.88	mg/kg	04.02.2020 15:09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 14:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 14:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	04.03.2020 14:33	
o-Terphenyl	84-15-1	108	%	70-130	04.03.2020 14:33	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS44**
Lab Sample Id: 657364-043

Matrix: Soil
Date Collected: 03.27.2020 14:31

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.01.2020 23:44	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.01.2020 23:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.01.2020 23:44	
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.01.2020 23:44	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS45** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-044 Date Collected: 03.27.2020 14:35 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:25 Basis: **Wet Weight**
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.2	9.96	mg/kg	04.02.2020 15:15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 13:00 Basis: **Wet Weight**
 Seq Number: 3122021 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	04.03.2020 14:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 14:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 14:55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 14:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 14:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.03.2020 14:55	
o-Terphenyl	84-15-1	101	%	70-130	04.03.2020 14:55	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS45**
Lab Sample Id: 657364-044

Matrix: Soil
Date Collected: 03.27.2020 14:35

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 10:06

Basis: Wet Weight

Seq Number: 3121699

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.02.2020 00:04	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.02.2020 00:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 00:04	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.02.2020 00:04	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS46** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-045 Date Collected: 03.27.2020 14:17 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.2	10.0	mg/kg	04.02.2020 15:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 15:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.03.2020 15:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.03.2020 15:17	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.03.2020 15:17	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.03.2020 15:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	04.03.2020 15:17	
o-Terphenyl	84-15-1	102	%	70-130	04.03.2020 15:17	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS46**
 Lab Sample Id: 657364-045

Matrix: Soil
 Date Collected: 03.27.2020 14:17

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.02.2020 03:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.02.2020 03:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 03:08	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.02.2020 03:08	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS47** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-046 Date Collected: 03.27.2020 14:05 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.2	10.0	mg/kg	04.02.2020 15:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 15:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 15:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.03.2020 15:39	
o-Terphenyl	84-15-1	104	%	70-130	04.03.2020 15:39	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS47**
 Lab Sample Id: 657364-046

Matrix: Soil
 Date Collected: 03.27.2020 14:05

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.02.2020 08:54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.02.2020 08:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 08:54	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.02.2020 08:54	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS48** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-047 Date Collected: 03.27.2020 13:56 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	989	9.92	mg/kg	04.02.2020 15:46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 16:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 16:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 16:01	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 16:01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 16:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	04.03.2020 16:01	
o-Terphenyl	84-15-1	119	%	70-130	04.03.2020 16:01	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS48**
Lab Sample Id: 657364-047

Matrix: Soil
Date Collected: 03.27.2020 13:56

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.2020 09:15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.2020 09:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.02.2020 09:15	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.02.2020 09:15	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS18** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-048 Date Collected: 03.26.2020 10:13 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.2	9.98	mg/kg	04.02.2020 15:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 16:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.03.2020 16:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.03.2020 16:23	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.03.2020 16:23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.03.2020 16:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	04.03.2020 16:23	
o-Terphenyl	84-15-1	98	%	70-130	04.03.2020 16:23	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS18**
 Lab Sample Id: 657364-048

Matrix: Soil
 Date Collected: 03.26.2020 10:13

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.02.2020 09:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.02.2020 09:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.02.2020 09:35		
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 09:35		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS19** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-049 Date Collected: 03.26.2020 11:25 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1270	49.9	mg/kg	04.02.2020 15:58		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 16:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 16:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	04.03.2020 16:44	
o-Terphenyl	84-15-1	107	%	70-130	04.03.2020 16:44	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS19**
 Lab Sample Id: 657364-049

Matrix: Soil
 Date Collected: 03.26.2020 11:25

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.02.2020 09:56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.02.2020 09:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.02.2020 09:56		
1,4-Difluorobenzene	540-36-3	111	%	70-130	04.02.2020 09:56		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS20** Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-050 Date Collected: 03.26.2020 11:30 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1090	10.0	mg/kg	04.02.2020 16:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 17:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 17:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	04.03.2020 17:06	
o-Terphenyl	84-15-1	108	%	70-130	04.03.2020 17:06	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS20**
 Lab Sample Id: 657364-050

Matrix: Soil
 Date Collected: 03.26.2020 11:30

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.01.2020 20:09

Basis: Wet Weight

Seq Number: 3121698

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.02.2020 10:16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.02.2020 10:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.02.2020 10:16	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.02.2020 10:16	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS21** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-051 Date Collected: 03.26.2020 11:58 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:25 Basis: **Wet Weight**
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.1	9.96	mg/kg	04.02.2020 16:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 13:00 Basis: **Wet Weight**
 Seq Number: 3122021 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	04.03.2020 17:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 17:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 17:50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 17:50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 17:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	04.03.2020 17:50	
o-Terphenyl	84-15-1	103	%	70-130	04.03.2020 17:50	



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS21**
 Lab Sample Id: 657364-051

Matrix: Soil
 Date Collected: 03.26.2020 11:58

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.03.2020 00:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.03.2020 00:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.03.2020 00:16		
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.03.2020 00:16		



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LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS23** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-052 Date Collected: 03.26.2020 12:58 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:25 Basis: **Wet Weight**
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.2	9.96	mg/kg	04.02.2020 16:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 13:00 Basis: **Wet Weight**
 Seq Number: 3122021 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	04.03.2020 18:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.03.2020 18:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.03.2020 18:14	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.03.2020 18:14	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.03.2020 18:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.03.2020 18:14	
o-Terphenyl	84-15-1	101	%	70-130	04.03.2020 18:14	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS23**
 Lab Sample Id: 657364-052

Matrix: Soil
 Date Collected: 03.26.2020 12:58

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.03.2020 00:37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.03.2020 00:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.03.2020 00:37	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.03.2020 00:37	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS24** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-053 Date Collected: 03.26.2020 09:56 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:25 Basis: **Wet Weight**
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.9	9.98	mg/kg	04.02.2020 16:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 13:00 Basis: **Wet Weight**
 Seq Number: 3122021 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	04.03.2020 18:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 18:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 18:36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 18:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 18:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	04.03.2020 18:36	
o-Terphenyl	84-15-1	97	%	70-130	04.03.2020 18:36	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS24**
 Lab Sample Id: 657364-053

Matrix: Soil
 Date Collected: 03.26.2020 09:56

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.03.2020 00:57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.03.2020 00:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.03.2020 00:57	
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.03.2020 00:57	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS25 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-054 Date Collected: 03.26.2020 10:42 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.02.2020 10:25 Basis: Wet Weight
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1480	10.0	mg/kg	04.02.2020 16:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 18:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 18:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	04.03.2020 18:58	
o-Terphenyl	84-15-1	84	%	70-130	04.03.2020 18:58	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS25
Lab Sample Id: 657364-054

Matrix: Soil
Date Collected: 03.26.2020 10:42

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3121837

Prep Method: SW5030B

% Moisture:

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.03.2020 01:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.03.2020 01:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.03.2020 01:18	
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.03.2020 01:18	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS26** Matrix: **Soil** Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-055 Date Collected: 03.26.2020 11:06 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.02.2020 10:25 Basis: **Wet Weight**
 Seq Number: 3121793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2910	50.2	mg/kg	04.02.2020 16:58		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DVM** % Moisture:
 Analyst: **ARM** Date Prep: 04.03.2020 13:00 Basis: **Wet Weight**
 Seq Number: 3122021 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	04.03.2020 19:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 19:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	04.03.2020 19:20	
o-Terphenyl	84-15-1	110	%	70-130	04.03.2020 19:20	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS26**
 Lab Sample Id: 657364-055

Matrix: Soil
 Date Collected: 03.26.2020 11:06

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.03.2020 01:38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.03.2020 01:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.03.2020 01:38		
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.03.2020 01:38		



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS27 Matrix: Soil Date Received: 03.30.2020 17:27
 Lab Sample Id: 657364-056 Date Collected: 03.26.2020 11:44 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.01.2020 12:15 Basis: Wet Weight
 Seq Number: 3121701

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	234	10.0	mg/kg	04.01.2020 18:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.03.2020 13:00 Basis: Wet Weight
 Seq Number: 3122021 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	04.03.2020 19:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 19:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 19:42	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 19:42	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 19:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.03.2020 19:42	
o-Terphenyl	84-15-1	102	%	70-130	04.03.2020 19:42	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS27**
 Lab Sample Id: 657364-056

Matrix: Soil
 Date Collected: 03.26.2020 11:44

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.03.2020 02:59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.03.2020 02:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.03.2020 02:59	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.03.2020 02:59	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS28**
Lab Sample Id: 657364-057

Matrix: Soil
Date Collected: 03.26.2020 11:47

Date Received: 03.30.2020 17:27
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3121701

Date Prep: 04.01.2020 12:15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	286	10.1	mg/kg	04.01.2020 18:28		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3122021

Date Prep: 04.03.2020 13:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 20:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 20:04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 20:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 20:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	04.03.2020 20:04	
o-Terphenyl	84-15-1	107	%	70-130	04.03.2020 20:04	



Certificate of Analytical Results 657364

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS28**
 Lab Sample Id: 657364-057

Matrix: Soil
 Date Collected: 03.26.2020 11:47

Date Received: 03.30.2020 17:27
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.02.2020 17:35

Basis: Wet Weight

Seq Number: 3121837

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.03.2020 03:20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.03.2020 03:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.03.2020 03:20		
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.03.2020 03:20		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3121701

MB Sample Id: 7700319-1-BLK

Matrix: Solid

LCS Sample Id: 7700319-1-BKS

Prep Method: E300P

Date Prep: 04.01.2020

LCSD Sample Id: 7700319-1-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	266	106	267	107	90-110	0	20	mg/kg	04.01.2020 15:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3121791

MB Sample Id: 7700321-1-BLK

Matrix: Solid

LCS Sample Id: 7700321-1-BKS

Prep Method: E300P

Date Prep: 04.02.2020

LCSD Sample Id: 7700321-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	258	103	90-110	0	20	mg/kg	04.02.2020 08:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3121792

MB Sample Id: 7700324-1-BLK

Matrix: Solid

LCS Sample Id: 7700324-1-BKS

Prep Method: E300P

Date Prep: 04.02.2020

LCSD Sample Id: 7700324-1-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	272	109	90-110	1	20	mg/kg	04.02.2020 11:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3121793

MB Sample Id: 7700325-1-BLK

Matrix: Solid

LCS Sample Id: 7700325-1-BKS

Prep Method: E300P

Date Prep: 04.02.2020

LCSD Sample Id: 7700325-1-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	04.02.2020 14:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3121701

Parent Sample Id: 657373-003

Matrix: Soil

MS Sample Id: 657373-003 S

Prep Method: E300P

Date Prep: 04.01.2020

MSD Sample Id: 657373-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.0	200	282	106	284	107	90-110	1	20	mg/kg	04.01.2020 17:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3121701

Parent Sample Id: 657518-001

Matrix: Soil

MS Sample Id: 657518-001 S

Prep Method: E300P

Date Prep: 04.01.2020

MSD Sample Id: 657518-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.4	200	232	106	233	107	90-110	0	20	mg/kg	04.01.2020 15:49	

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3121791

Parent Sample Id: 657364-001

Matrix: Soil

MS Sample Id: 657364-001 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	366	200	576	105	577	106	90-110	0	20	mg/kg	04.02.2020 08:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3121791

Parent Sample Id: 657364-011

Matrix: Soil

MS Sample Id: 657364-011 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1520	198	1710	96	1710	96	90-110	0	20	mg/kg	04.02.2020 09:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3121792

Parent Sample Id: 657364-021

Matrix: Soil

MS Sample Id: 657364-021 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	256	200	475	110	477	111	90-110	0	20	mg/kg	04.02.2020 11:36	X

Analytical Method: Chloride by EPA 300

Seq Number: 3121792

Parent Sample Id: 657364-031

Matrix: Soil

MS Sample Id: 657364-031 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4560	202	4740	89	4750	94	90-110	0	20	mg/kg	04.02.2020 12:56	X

Analytical Method: Chloride by EPA 300

Seq Number: 3121793

Parent Sample Id: 657364-041

Matrix: Soil

MS Sample Id: 657364-041 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.9	199	243	106	245	107	90-110	1	20	mg/kg	04.02.2020 14:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3121793

Parent Sample Id: 657364-051

Matrix: Soil

MS Sample Id: 657364-051 S

Prep Method: E300P

Date Prep: 04.02.2020

MSD Sample Id: 657364-051 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	34.1	200	250	108	250	108	90-110	0	20	mg/kg	04.02.2020 16:16	

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122016

MB Sample Id: 7700554-1-BLK

Matrix: Solid

LCS Sample Id: 7700554-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700554-1-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	935	94	973	97	70-130	4	20	mg/kg	04.03.2020 12:21	
Diesel Range Organics (DRO)	<50.0	1000	957	96	1020	102	70-130	6	20	mg/kg	04.03.2020 12:21	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	82		88		91		70-130	%	04.03.2020 12:21			
o-Terphenyl	95		103		102		70-130	%	04.03.2020 12:21			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122018

MB Sample Id: 7700556-1-BLK

Matrix: Solid

LCS Sample Id: 7700556-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700556-1-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	1000	100	976	98	70-130	2	20	mg/kg	04.03.2020 22:15	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1130	113	70-130	3	20	mg/kg	04.03.2020 22:15	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	85		96		97		70-130	%	04.03.2020 22:15			
o-Terphenyl	102		109		107		70-130	%	04.03.2020 22:15			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122021

MB Sample Id: 7700557-1-BLK

Matrix: Solid

LCS Sample Id: 7700557-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700557-1-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	934	93	985	99	70-130	5	20	mg/kg	04.03.2020 12:21	
Diesel Range Organics (DRO)	<50.0	1000	980	98	1030	103	70-130	5	20	mg/kg	04.03.2020 12:21	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	105		99		104		70-130	%	04.03.2020 12:21			
o-Terphenyl	121		115		112		70-130	%	04.03.2020 12:21			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122016

Matrix: Solid

MB Sample Id: 7700554-1-BLK

Prep Method: SW8015P

Date Prep: 04.03.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.03.2020 11:58	

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122018

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.03.2020

MB Sample Id: 7700556-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.03.2020 21:53

Flag**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3122021

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.03.2020

MB Sample Id: 7700557-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.03.2020 11:58

Flag**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3122016

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.03.2020

Parent Sample Id: 657364-001

MS Sample Id: 657364-001 S

MSD Sample Id: 657364-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<49.9

**Spike
Amount**

997

**MS
Result**

905

**MS
%Rec**

91

**MSD
Result**

908

**MSD
%Rec**

91

Limits

70-130

%RPD

0

**RPD
Limit**

20

Units

mg/kg

**Analysis
Date**

04.03.2020 13:27

Flag

Diesel Range Organics (DRO)

<49.9

997

966

97

969

97

70-130

0

20

mg/kg

04.03.2020 13:27

Surrogate

1-Chlorooctane

**MS
%Rec**

85

**MS
Flag****MSD
%Rec**

95

**MSD
Flag****Limits**

70-130

Units

%

**Analysis
Date**

04.03.2020 13:27

o-Terphenyl

93

96

70-130

%

04.03.2020 13:27

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122018

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.03.2020

Parent Sample Id: 657364-021

MS Sample Id: 657364-021 S

MSD Sample Id: 657364-021 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<49.9

**Spike
Amount**

997

**MS
Result**

967

**MS
%Rec**

97

**MSD
Result**

988

**MSD
%Rec**

99

Limits

70-130

%RPD

2

**RPD
Limit**

20

Units

mg/kg

**Analysis
Date**

04.03.2020 23:20

Flag

Diesel Range Organics (DRO)

<49.9

997

1070

107

1090

109

70-130

2

20

mg/kg

04.03.2020 23:20

Surrogate

1-Chlorooctane

**MS
%Rec**

90

**MS
Flag****MSD
%Rec**

91

**MSD
Flag****Limits**

70-130

Units

%

**Analysis
Date**

04.03.2020 23:20

o-Terphenyl

99

100

70-130

%

04.03.2020 23:20

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122021

Parent Sample Id: 657364-041

Matrix: Soil

MS Sample Id: 657364-041 S

Prep Method: SW8015P

Date Prep: 04.03.2020

MSD Sample Id: 657364-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	917	92	1050	105	70-130	14	20	mg/kg	04.03.2020 13:27	
Diesel Range Organics (DRO)	<49.8	996	985	99	1140	114	70-130	15	20	mg/kg	04.03.2020 13:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-130	%	04.03.2020 13:27
o-Terphenyl	106		125		70-130	%	04.03.2020 13:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121565

MB Sample Id: 7700192-1-BLK

Matrix: Solid

LCS Sample Id: 7700192-1-BKS

Prep Method: SW5030B

Date Prep: 03.31.2020

LCSD Sample Id: 7700192-1-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	0.121	121	0.124	124	70-130	2	35	mg/kg	03.31.2020 20:42	
Toluene	<0.00200	0.100	0.118	118	0.113	113	70-130	4	35	mg/kg	03.31.2020 20:42	
Ethylbenzene	<0.00200	0.100	0.109	109	0.106	106	71-129	3	35	mg/kg	03.31.2020 20:42	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.206	103	70-135	3	35	mg/kg	03.31.2020 20:42	
o-Xylene	<0.00200	0.100	0.109	109	0.105	105	71-133	4	35	mg/kg	03.31.2020 20:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		110		109		70-130	%	03.31.2020 20:42
4-Bromofluorobenzene	93		86		86		70-130	%	03.31.2020 20:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121570

MB Sample Id: 7700195-1-BLK

Matrix: Solid

LCS Sample Id: 7700195-1-BKS

Prep Method: SW5030B

Date Prep: 03.31.2020

LCSD Sample Id: 7700195-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.105	105	70-130	6	35	mg/kg	04.01.2020 04:20	
Toluene	<0.00200	0.100	0.105	105	0.0986	99	70-130	6	35	mg/kg	04.01.2020 04:20	
Ethylbenzene	<0.00200	0.100	0.0980	98	0.0915	92	71-129	7	35	mg/kg	04.01.2020 04:20	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.188	94	70-135	7	35	mg/kg	04.01.2020 04:20	
o-Xylene	<0.00200	0.100	0.103	103	0.0962	96	71-133	7	35	mg/kg	04.01.2020 04:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		110		70-130	%	04.01.2020 04:20
4-Bromofluorobenzene	96		95		95		70-130	%	04.01.2020 04:20

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121699

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.01.2020

MB Sample Id: 7700317-1-BLK

LCS Sample Id: 7700317-1-BKS

LCSD Sample Id: 7700317-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.109	109	70-130	0	35	mg/kg	04.01.2020 15:13	
Toluene	<0.00200	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	04.01.2020 15:13	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.0969	97	71-129	2	35	mg/kg	04.01.2020 15:13	
m,p-Xylenes	<0.00400	0.200	0.205	103	0.201	101	70-135	2	35	mg/kg	04.01.2020 15:13	
o-Xylene	<0.00200	0.100	0.103	103	0.101	101	71-133	2	35	mg/kg	04.01.2020 15:13	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	111		108		108		70-130			%	04.01.2020 15:13	
4-Bromofluorobenzene	97		93		90		70-130			%	04.01.2020 15:13	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121835

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.01.2020

MB Sample Id: 7700193-1-BLK

LCS Sample Id: 7700193-1-BKS

LCSD Sample Id: 7700193-1-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	0.122	122	0.123	123	70-130	1	35	mg/kg	04.02.2020 06:29	
Toluene	<0.00200	0.100	0.129	129	0.122	122	70-130	6	35	mg/kg	04.02.2020 06:29	
Ethylbenzene	<0.00200	0.100	0.120	120	0.113	113	71-129	6	35	mg/kg	04.02.2020 06:29	
m,p-Xylenes	<0.00400	0.200	0.233	117	0.219	110	70-135	6	35	mg/kg	04.02.2020 06:29	
o-Xylene	<0.00200	0.100	0.119	119	0.112	112	71-133	6	35	mg/kg	04.02.2020 06:29	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	114		107		108		70-130			%	04.02.2020 06:29	
4-Bromofluorobenzene	92		83		86		70-130			%	04.02.2020 06:29	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.01.2020

MB Sample Id: 7700318-1-BLK

LCS Sample Id: 7700318-1-BKS

LCSD Sample Id: 7700318-1-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	0.105	105	0.104	104	70-130	1	35	mg/kg	04.02.2020 01:26	
Toluene	<0.00200	0.100	0.0990	99	0.0988	99	70-130	0	35	mg/kg	04.02.2020 01:26	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0922	92	71-129	0	35	mg/kg	04.02.2020 01:26	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.188	94	70-135	1	35	mg/kg	04.02.2020 01:26	
o-Xylene	<0.00200	0.100	0.0973	97	0.0965	97	71-133	1	35	mg/kg	04.02.2020 01:26	
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			%	04.02.2020 01:26	
4-Bromofluorobenzene	97		92		95		70-130			%	04.02.2020 01:26	

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

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

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

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



LT Environmental, Inc. Breakwater Spill

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121837

MB Sample Id: 7700411-1-BLK

Matrix: Solid

LCS Sample Id: 7700411-1-BKS

Prep Method: SW5030B

Date Prep: 04.02.2020

LCSD Sample Id: 7700411-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.118	118	70-130	7	35	mg/kg	04.02.2020 20:32	
Toluene	<0.00200	0.100	0.0999	100	0.107	107	70-130	7	35	mg/kg	04.02.2020 20:32	
Ethylbenzene	<0.00200	0.100	0.0921	92	0.100	100	71-129	8	35	mg/kg	04.02.2020 20:32	
m,p-Xylenes	<0.00400	0.200	0.179	90	0.196	98	70-135	9	35	mg/kg	04.02.2020 20:32	
o-Xylene	<0.00200	0.100	0.0919	92	0.100	100	71-133	8	35	mg/kg	04.02.2020 20:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		108		109		70-130	%	04.02.2020 20:32
4-Bromofluorobenzene	91		86		86		70-130	%	04.02.2020 20:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121565

Parent Sample Id: 657453-001

Matrix: Soil

MS Sample Id: 657453-001 S

Prep Method: SW5030B

Date Prep: 03.31.2020

MSD Sample Id: 657453-001 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	0.108	109	0.103	104	70-130	5	35	mg/kg	03.31.2020 21:23	
Toluene	<0.00199	0.0994	0.100	101	0.0941	95	70-130	6	35	mg/kg	03.31.2020 21:23	
Ethylbenzene	<0.00199	0.0994	0.0943	95	0.0871	88	71-129	8	35	mg/kg	03.31.2020 21:23	
m,p-Xylenes	<0.00398	0.199	0.185	93	0.170	85	70-135	8	35	mg/kg	03.31.2020 21:23	
o-Xylene	<0.00199	0.0994	0.0949	95	0.0876	88	71-133	8	35	mg/kg	03.31.2020 21:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		111		70-130	%	03.31.2020 21:23
4-Bromofluorobenzene	91		91		70-130	%	03.31.2020 21:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121570

Parent Sample Id: 657364-019

Matrix: Soil

MS Sample Id: 657364-019 S

Prep Method: SW5030B

Date Prep: 03.31.2020

MSD Sample Id: 657364-019 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	0.0987	98	0.102	102	70-130	3	35	mg/kg	04.01.2020 05:01	
Toluene	<0.00201	0.101	0.0930	92	0.0962	97	70-130	3	35	mg/kg	04.01.2020 05:01	
Ethylbenzene	<0.00201	0.101	0.0867	86	0.0885	89	71-129	2	35	mg/kg	04.01.2020 05:01	
m,p-Xylenes	<0.00402	0.201	0.177	88	0.181	91	70-135	2	35	mg/kg	04.01.2020 05:01	
o-Xylene	<0.00201	0.101	0.0922	91	0.0947	95	71-133	3	35	mg/kg	04.01.2020 05:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	04.01.2020 05:01
4-Bromofluorobenzene	93		95		70-130	%	04.01.2020 05:01

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

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

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

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



LT Environmental, Inc. Breakwater Spill

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121699

Parent Sample Id: 657364-023

Matrix: Soil

MS Sample Id: 657364-023 S

Prep Method: SW5030B

Date Prep: 04.01.2020

MSD Sample Id: 657364-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0991	99	0.108	109	70-130	9	35	mg/kg	04.01.2020 15:54	
Toluene	<0.00200	0.100	0.0947	95	0.104	105	70-130	9	35	mg/kg	04.01.2020 15:54	
Ethylbenzene	<0.00200	0.100	0.0860	86	0.0944	95	71-129	9	35	mg/kg	04.01.2020 15:54	
m,p-Xylenes	<0.00401	0.200	0.177	89	0.196	99	70-135	10	35	mg/kg	04.01.2020 15:54	
o-Xylene	<0.00200	0.100	0.0890	89	0.0980	99	71-133	10	35	mg/kg	04.01.2020 15:54	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.01.2020 15:54
4-Bromofluorobenzene	97		93		70-130	%	04.01.2020 15:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121835

Parent Sample Id: 657244-041

Matrix: Soil

MS Sample Id: 657244-041 S

Prep Method: SW5030B

Date Prep: 04.01.2020

MSD Sample Id: 657244-041 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	0.121	121	0.116	116	70-130	4	35	mg/kg	04.02.2020 07:10	
Toluene	<0.00199	0.0996	0.109	109	0.104	104	70-130	5	35	mg/kg	04.02.2020 07:10	
Ethylbenzene	<0.00199	0.0996	0.101	101	0.0954	96	71-129	6	35	mg/kg	04.02.2020 07:10	
m,p-Xylenes	<0.00398	0.199	0.195	98	0.183	92	70-135	6	35	mg/kg	04.02.2020 07:10	
o-Xylene	<0.00199	0.0996	0.0998	100	0.0938	94	71-133	6	35	mg/kg	04.02.2020 07:10	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	04.02.2020 07:10
4-Bromofluorobenzene	86		87		70-130	%	04.02.2020 07:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

Parent Sample Id: 657364-045

Matrix: Soil

MS Sample Id: 657364-045 S

Prep Method: SW5030B

Date Prep: 04.01.2020

MSD Sample Id: 657364-045 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	0.0956	96	0.0928	93	70-130	3	35	mg/kg	04.02.2020 02:06	
Toluene	<0.00200	0.100	0.0888	89	0.0881	89	70-130	1	35	mg/kg	04.02.2020 02:06	
Ethylbenzene	<0.00200	0.100	0.0830	83	0.0816	82	71-129	2	35	mg/kg	04.02.2020 02:06	
m,p-Xylenes	<0.00401	0.200	0.171	86	0.168	84	70-135	2	35	mg/kg	04.02.2020 02:06	
o-Xylene	<0.00200	0.100	0.0866	87	0.0852	86	71-133	2	35	mg/kg	04.02.2020 02:06	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.02.2020 02:06
4-Bromofluorobenzene	94		95		70-130	%	04.02.2020 02:06

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

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

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

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121837

Parent Sample Id: 657763-001

Matrix: Soil

MS Sample Id: 657763-001 S

Prep Method: SW5030B

Date Prep: 04.02.2020

MSD Sample Id: 657763-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.125	126	0.119	119	70-130	5	35	mg/kg	04.02.2020 21:12	
Toluene	<0.00199	0.0996	0.114	114	0.108	108	70-130	5	35	mg/kg	04.02.2020 21:12	
Ethylbenzene	<0.00199	0.0996	0.106	106	0.0980	98	71-129	8	35	mg/kg	04.02.2020 21:12	
m,p-Xylenes	<0.00398	0.199	0.205	103	0.190	95	70-135	8	35	mg/kg	04.02.2020 21:12	
o-Xylene	<0.00199	0.0996	0.104	104	0.0968	97	71-133	7	35	mg/kg	04.02.2020 21:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.02.2020 21:12
4-Bromofluorobenzene	86		88		70-130	%	04.02.2020 21:12

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

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

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

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



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Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 233-3333
Hobbs, NM (575-382-7550)

Work Order No: 057264

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Chain of Custody

Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	wmather@ltenv.com , cmckisson@ltenv.com

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

Project Name:	Breakwater Spill	Turn Around	ANALYSIS REQUEST																Work Order Notes
Project Number:	102720001	Routine																	TAT starts the day received by the lab, if received by 4:30pm
P.O. Number:	Eddy	Rush:																	
Sampler's Name:	William Mather		Due Date:																
SAMPLE RECEIPT			Temp Blank:	Yes No	Wet Ice:	Yes No											SAMPLE COMMENTS TAT starts the day received by the lab, if received by 4:30pm		
Temperature ("C):	2.8		Thermometer ID																
Received Intact:	Yes No		T-NM-009																
Cooler Custody Seals:	Yes No	N/A	Correction Factor:																
Sample Custody Seals:	Yes No	N/A	Total Containers:																
			57																
Sample Identification			Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										Sample Comments		
FS49	s	3/27/2020	13:53	1.5'	1	x	x	x											
FS50	s	3/27/2020	13:46	1.5'	1	x	x	x											
FS51	s	3/27/2020	13:42	1.5'	1	x	x	x											
FS52	s	3/27/2020	13:42	1.5'	1	x	x	x											
FS53	s	3/27/2020	13:40	1.5'	1	x	x	x											
FS54	s	3/27/2020	13:38	1.5'	1	x	x	x											
FS55	s	3/27/2020	13:56	1.5'	1	x	x	x											
FS56	s	3/27/2020	13:58	1.5'	1	x	x	x											
FS67	s	3/27/2020	14:12	1.5'	1	x	x	x											
FS58	s	3/27/2020	14:15	1.5'	1	x	x	x											

Total	200.7 / 6010	200.8; 6020:	
<i>Circle Method(s) and Metal(s) to be analyzed</i>			
8RCRA	13PPM	Texas 11	AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U			1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3/30/20 Soc PM			3/30/20 1729

Revised Date 05/14/11 Rev. 2018.1



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

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Chain of Custody

Work Order No:

12573104

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(575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-289-9999)

Bill to: (if different)

Chris McKisson

LT Environmental

Company Name

820 Megan Ave, Unit B

Address:

Rifle, CO 81650

City, State ZIP

(970) 285 - 9985

Email: wmath@ltenv.com, cmckisson@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund

State of Project:

Reporting Level II ☒ Level III ☐ Divisions ☐ Other ☐ Level IV ☐

Deliverables:	EDD	ADAP I	Others:
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Work Order Notes

ANALYSIS REQUEST

Project Name:	Breakwater Spill	Turn Around	ANALYSIS REQUEST	Work Order Notes		
Project Number:	102720001	Routine				
P.O. Number:	Eddy	Rush:				
Sampler's Name:	William Mather	Due Date:				
SAMPLE RECEIPT						
Temperature (°C):	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Received Intact:	Yes	No	Thermometer ID			
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		
Number of Containers						
EPA 8015)						
EPA 0=8021)						
le (EPA 300.0)						
TAT starts the day received by the lab, if received by 4:30pm						

[illegible]

Total 200.7 / 6010 200.8 / 6020:

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

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	3/30/20	<i>[Signature]</i>	<i>[Signature]</i>	3/30/20



Chain of Custody

Work Order No: 157364

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:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	wmather@lternv.com, cmckisson@lternv.com

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

Project Name:	Breakwater Spill	Turn Around	
Project Number:	102720001	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):		Thermometer ID	500191					
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	ANALYSIS REQUEST										Sample Comments	
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)								
FS59	S	3/27/2020	14:35	1.5'	1	X	X	X								Composite, Pulverized rock
FS60	S	3/27/2020	14:37	1.5'	1	X	X	X								Composite, Pulverized rock
FS61	S	3/27/2020	14:39	1.5'	1	X	X	X								Composite, Pulverized rock
FS62	S	3/27/2020	14:41	1.5'	1	X	X	X								Composite, Pulverized rock
FS01	S	3/27/2020	9:00	1.5'	1	X	X	X								Composite, Pulverized rock
FS02	S	3/27/2020	9:15	1.5'	1	X	X	X								Composite, Pulverized rock
FS03	S	3/27/2020	12:35	1.5'	1	X	X	X								Composite, Pulverized rock
FS04	S	3/27/2020	13:02	1.5'	1	X	X	X								Composite, Pulverized rock
FS05	S	3/27/2020	13:15	1.5'	1	X	X	X								Composite, Pulverized rock
FS06	S	3/27/2020	15:28	1.5'	1	X	X	X								Composite, Pulverized rock

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. <i>[Signature]</i>	<i>[Signature]</i>	3/30/20 14:25	2. <i>[Signature]</i>	<i>[Signature]</i>	
3.			4.		
5.			6.		



Chain of Custody

Work Order No: 10573024

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
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Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	wmather@ltenv.com, cmckisson@ltenv.com

Program: ☐ UST/PST ☐ RP ☐ Growfields ☐ RC ☐ Spentfund ☐	
State of Project:	
Reporting Level: ☐ Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐	
Deliverables: ☐ EDD ☐ AdAPT ☐ Other:	

Project Name:	Breakwater Spill	Turn Around		ANALYSIS REQUEST																Work Order Notes
Project Number:	102720001	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):			Yes	No	Thermometer ID																		
Received intact:			Yes	No	Correction Factor:																		
Cooler Custody Seals:		Yes	No	N/A	Total Containers:																		
Sample Custody Seals:		Yes	No	N/A																			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																Sample Comments	
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)															
FS29	S	3/26/2020	12:44	1.5'	1	X	X	X														Composite, Pulverized rock
FS30	S	3/26/2020	13:06	1.5'	1	X	X	X														Composite, Pulverized rock
FS31	S	3/26/2020	09:52	1.5'	1	X	X	X														Composite, Pulverized rock
FS32	S	3/26/2020	10:50	1.5'	1	X	X	X														Composite, Pulverized rock
FS33	S	3/26/2020	11:27	1.5'	1	X	X	X														Composite, Pulverized rock
FS34	S	3/26/2020	11:39	1.5'	1	X	X	X														Composite, Pulverized rock
FS35	S	3/26/2020	11:52	1.5'	1	X	X	X														Composite, Pulverized rock
FS36	S	3/26/2020	12:54	1.5'	1	X	X	X														Composite, Pulverized rock
FS37	S	3/26/2020	13:04	1.5'	1	X	X	X														Composite, Pulverized rock
FS38	S	3/27/2020	13:43	1.5'	1	X	X	X														Composite, Pulverized rock

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	3/30/20 5:00 PM	<i>[Signature]</i>	<i>[Signature]</i>	3/30/20 17:27



Chain of Custody

Work Order No.:

1257342

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 575-3927

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:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285 - 9985	Email:	mmather@ltenv.com, cmckisson@ltenv.com

Work Order Comments			
Program: UST/PST ☐ RP ☐ Rowfields ☐ RC ☐ Fund ☐			
State of Project:			
Reporting Level II	☐ Level III	☐ F/T/UST	☐ RP ☐ Level IV ☐
Deliverables: EDD	☐ ADaPT	☐	Other:

ANALYSIS REQUEST				Work Order Notes		
Project Name:	Breakwater Spill	Turn Around				
Project Number:	102720001	Routine	☒			
P.O. Number:	Eddy	Rush:				
Sampler's Name:	William Mather		Due Date:			
SAMPLE RECEIPT						
Temperature (°C):	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Received In tact:	Yes	No	Thermometer ID			
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		
Number of Containers						
PA 8015)						
EPA 0=8021)						
e (EPA 300.0)						
TAT starts the day received by the lab, if received by 4:30pm						

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (I)	Chloride												Sample Comments
FS18	S	3/26/2020	10:13	1.5'	1	X	X	X												Composite, Pulverized rock
FS19	S	3/26/2020	11:25	1.5'	1	X	X	X												Composite, Pulverized rock
FS20	S	3/26/2020	11:30	1.5'	1	X	X	X												Composite, Pulverized rock
FS21	S	3/26/2020	11:58	1.5'	1	X	X	X												Composite, Pulverized rock
FS23	S	3/26/2020	12:58	1.5'	1	X	X	X												Composite, Pulverized rock
FS24	S	3/26/2020	09:56	1.5'	1	X	X	X												Composite, Pulverized rock
FS25	S	3/26/2020	10:42	1.5'	1	X	X	X												Composite, Pulverized rock
FS26	S	3/26/2020	11:06	1.5'	1	X	X	X												Composite, Pulverized rock
FS27	S	3/26/2020	11:44	1.5'	1	X	X	X												Composite, Pulverized rock
FS28	S	3/26/2020	11:47	1.5'	1	X	X	X												Composite, Pulverized rock

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	SiO ₂
Na	Sr	Ti
Sn	U	V
Zn		
TCLP / SPLP	6010:	8RCRA
Sb	As	Ba
Be	Cd	Cr
Co	Cu	Pb
Mn	Mo	Ni
Se	Ag	Ti
U		
		1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xeno, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xeno 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 Xeno. A minimum charge of \$7500 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>				
<i>[Signature]</i>	<i>[Signature]</i>	<i>3/23/20 5:02 PM</i>	<i>[Signature]</i>		

IOS Number **61339**

Date/Time: 04/01/20 10:49

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
657364-001	S	FS49	03/27/20 13:53	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-002	S	FS50	03/27/20 13:46	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-003	S	FS51	03/27/20 13:41	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-004	S	FS52	03/27/20 13:42	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-005	S	FS53	03/27/20 13:40	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-006	S	FS54	03/27/20 13:38	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-007	S	FS55	03/27/20 13:56	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-008	S	FS56	03/27/20 13:58	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-009	S	FS57	03/27/20 14:12	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-010	S	FS58	03/27/20 14:15	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-011	S	FS07	03/27/20 14:35	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-012	S	FS08	03/27/20 14:37	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-013	S	FS09	03/27/20 14:39	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-014	S	FS10	03/27/20 14:41	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-015	S	FS11	03/27/20 09:00	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-016	S	FS12	03/27/20 09:15	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-017	S	FS13	03/27/20 12:35	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-018	S	FS59	03/27/20 14:35	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-019	S	FS60	03/27/20 14:37	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-020	S	FS61	03/27/20 14:39	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-021	S	FS62	03/27/20 14:41	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-022	S	FS01	03/27/20 09:00	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-023	S	FS02	03/27/20 09:15	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-024	S	FS03	03/27/20 12:35	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-025	S	FS04	03/27/20 13:02	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	

IOS Number **61339**

Date/Time: 04/01/20 10:49

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
657364-026	S	FS05	03/27/20 13:15	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-027	S	FS06	03/27/20 15:28	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-028	S	FS29	03/27/20 12:44	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-029	S	FS30	03/27/20 13:05	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-030	S	FS31	03/27/20 09:52	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-031	S	FS32	03/27/20 10:50	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-032	S	FS33	03/27/20 11:27	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-033	S	FS34	03/27/20 11:39	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-034	S	FS35	03/27/20 11:52	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-035	S	FS36	03/27/20 12:51	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-036	S	FS37	03/27/20 13:04	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-037	S	FS38	03/27/20 13:43	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-038	S	FS39	03/27/20 13:48	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-039	S	FS40	03/27/20 14:02	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-040	S	FS41	03/27/20 14:08	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-041	S	FS42	03/27/20 14:24	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-042	S	FS43	03/27/20 14:23	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-043	S	FS44	03/27/20 14:31	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-044	S	FS45	03/27/20 14:35	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-045	S	FS46	03/27/20 14:17	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-046	S	FS47	03/27/20 14:05	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-047	S	FS48	03/27/20 13:56	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/10/20	JKR	GRO-DRO PHCC10C28 PF	
657364-048	S	FS18	03/26/20 10:13	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-049	S	FS19	03/26/20 11:25	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-050	S	FS20	03/26/20 11:30	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:



Inter-Office Shipment

Page 3 of 3

IOS Number **61339**

Date/Time: 04/01/20 10:49

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
657364-051	S	FS21	03/26/20 11:58	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-052	S	FS23	03/26/20 12:58	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-053	S	FS24	03/26/20 09:56	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-054	S	FS25	03/26/20 10:42	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-055	S	FS26	03/26/20 11:06	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-056	S	FS27	03/26/20 11:44	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	
657364-057	S	FS28	03/26/20 11:47	SW8015MOD_NM	TPH by SW8015 Mod	04/03/20	04/09/20	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished:

04/01/2020

Received By:

Brianna Teel

Date Received:

Cooler Temperature:



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 61339

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Elizabeth McClellan

Date Sent: 04/01/2020 10:49 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?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	Yes
#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: _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.30.2020 05.27.00 PM

Work Order #: 657364

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	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 Split in lab for sub.
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes TPH subbed to Midland.
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 03.31.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.31.2020

Analytical Report 657808

for
LT Environmental, Inc.

Project Manager: Chris McKisson

Breakwater Spill

102720001

07-APR-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)



07-APR-20

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **657808**

Breakwater Spill

Project Address: Eddy

Chris McKisson:

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) 657808. 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. 657808 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

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 657808****LT Environmental, Inc., Arvada, CO**

Breakwater Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS64	S	04-02-20 09:27	1 ft	657808-001
FS66	S	04-02-20 10:37	1 ft	657808-002
FS75	S	04-02-20 13:29	1 ft	657808-003
Watertruck Sample	W	03-26-20 13:08		657808-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Breakwater Spill

Project ID: 102720001
Work Order Number(s): 657808

Report Date: 07-APR-20
Date Received: 04/02/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121975 Chloride by EPA 300

Lab Sample ID 657808-004 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: 657808-004.

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



Certificate of Analysis Summary 657808

LT Environmental, Inc., Arvada, CO

Project Name: Breakwater Spill

Project Id: 102720001
 Contact: Chris McKisson
 Project Location: Eddy

Date Received in Lab: Thu Apr-02-20 04:48 pm
 Report Date: 07-APR-20
 Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	657808-001	657808-002	657808-003	657808-004		
	Field Id:	FS64	FS66	FS75	Watertruck Sample		
	Depth:	1- ft	1- ft	1- ft			
	Matrix:	SOIL	SOIL	SOIL	WATER		
	Sampled:	Apr-02-20 09:27	Apr-02-20 10:37	Apr-02-20 13:29	Mar-26-20 13:08		
Chloride by EPA 300	Extracted:	Apr-07-20 08:41	Apr-07-20 08:41	Apr-07-20 08:41	Apr-05-20 12:56		
	Analyzed:	Apr-07-20 11:37	Apr-07-20 11:43	Apr-07-20 11:48	Apr-05-20 19:35		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/L RL		
Chloride		1340 10.0	1050 10.0	1400 9.98	2050 X 25.0		

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

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

Version: 1.0%

Jessica Kramer
Project Manager



Certificate of Analytical Results 657808

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS64** Matrix: Soil Date Received: 04.02.20 16.48
Lab Sample Id: 657808-001 Date Collected: 04.02.20 09.27 Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 04.07.20 08.41 Basis: Wet Weight
Seq Number: 3122208

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1340	10.0	mg/kg	04.07.20 11.37		1



Certificate of Analytical Results 657808

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **FS66**
Lab Sample Id: 657808-002

Matrix: Soil
Date Collected: 04.02.20 10.37

Date Received: 04.02.20 16.48
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.07.20 08.41

Basis: Wet Weight

Seq Number: 3122208

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1050	10.0	mg/kg	04.07.20 11.43		1



Certificate of Analytical Results 657808

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: FS75	Matrix: Soil	Date Received: 04.02.20 16.48
Lab Sample Id: 657808-003	Date Collected: 04.02.20 13.29	Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.07.20 08.41	Basis: Wet Weight
Seq Number: 3122208		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1400	9.98	mg/kg	04.07.20 11.48		1



Certificate of Analytical Results 657808

LT Environmental, Inc., Arvada, CO

Breakwater Spill

Sample Id: **Watertruck Sample**

Matrix: Water

Date Received: 04.02.20 16.48

Lab Sample Id: 657808-004

Date Collected: 03.26.20 13.08

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.05.20 12.56

Seq Number: 3121975

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2050	25.0	mg/L	04.05.20 19.35	X	50



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
Breakwater Spill

Analytical Method: Chloride by EPA 300

Seq Number: 3121975

MB Sample Id: 7700525-1-BLK

Matrix: Water

LCS Sample Id: 7700525-1-BKS

Prep Method: E300P

Date Prep: 04.05.20

LCSD Sample Id: 7700525-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	25.9	104	26.1	104	90-110	1	20	mg/L	04.05.20 19:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3122208

MB Sample Id: 7700621-1-BLK

Matrix: Solid

LCS Sample Id: 7700621-1-BKS

Prep Method: E300P

Date Prep: 04.07.20

LCSD Sample Id: 7700621-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	260	104	90-110	0	20	mg/kg	04.07.20 08:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3121975

Parent Sample Id: 657808-004

Matrix: Water

MS Sample Id: 657808-004 S

Prep Method: E300P

Date Prep: 04.05.20

MSD Sample Id: 657808-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2050	50.0	2110	120	2100	100	90-110	0	20	mg/L	04.05.20 19:40	X

Analytical Method: Chloride by EPA 300

Seq Number: 3122208

Parent Sample Id: 657494-001

Matrix: Soil

MS Sample Id: 657494-001 S

Prep Method: E300P

Date Prep: 04.07.20

MSD Sample Id: 657494-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	117	200	333	108	334	110	90-110	0	20	mg/kg	04.07.20 09:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3122208

Parent Sample Id: 657494-011

Matrix: Soil

MS Sample Id: 657494-011 S

Prep Method: E300P

Date Prep: 04.07.20

MSD Sample Id: 657494-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2370	202	2570	99	2570	99	90-110	0	20	mg/kg	04.07.20 10:18	

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 575-392-7550
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No: 657808

Project Manager:	Adrian Baker	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental, Inc., Permian office		Company Name:	
Address:	3900 North A Street	880 Megan Ave, Unit B	Address:	
City, State ZIP:	Midland, TX 79705	Rifle, CO 81650	City, State ZIP:	
Phone:	432-704-5478	970-285-9985	Email:	adrian@ltenv.com, cmckisson@hcn.com

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

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to 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	[Signature]	[Signature]	4/2/80 16:48			
2						
3						
4						
5						
6						

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.02.2020 04.48.00 PM

Work Order #: 657808

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 04.02.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.06.2020



Analytical Report 658383

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.13.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.13.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **658383**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 658383. 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. 658383 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 658383****LT Environmental, Inc., Arvada, CO**

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS77	S	04.08.2020 13:35	5 - 6 ft	658383-001
FS78	S	04.08.2020 13:58	5.5 - 6 ft	658383-002
SW02	S	04.08.2020 14:25	0.5 - 6 ft	658383-003
SW03	S	04.08.2020 14:30	0.5 - 6 ft	658383-004
SW04	S	04.08.2020 14:45	0.5 - 6 ft	658383-005
PH01	S	04.08.2020 08:35	0.5 ft	658383-006
PH01A	S	04.08.2020 08:45	4 ft	658383-007



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 658383

Report Date: 04.13.2020
Date Received: 04.08.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122575 BTEX by EPA 8021B

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

Batch: LBA-3122755 BTEX by EPA 8021B

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



Certificate of Analysis Summary 658383

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.08.2020 16:41
Report Date: 04.13.2020 11:49
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	658383-001	658383-002	658383-003	658383-004	658383-005	658383-006
	<i>Field Id:</i>	FS77	FS78	SW02	SW03	SW04	PH01
	<i>Depth:</i>	5-6 ft	5.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.08.2020 13:35	04.08.2020 13:58	04.08.2020 14:25	04.08.2020 14:30	04.08.2020 14:45	04.08.2020 08:35
BTEX by EPA 8021B	<i>Extracted:</i>	04.09.2020 16:42	04.09.2020 16:42	04.09.2020 16:42	04.09.2020 16:49	04.09.2020 16:42	04.09.2020 16:49
	<i>Analyzed:</i>	04.10.2020 06:26	04.10.2020 06:47	04.10.2020 07:07	04.10.2020 10:31	04.10.2020 07:27	04.10.2020 10:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00401 0.00401	<0.00404 0.00404	<0.00401 0.00401	<0.00403 0.00403	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Xylenes, Total		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46
	<i>Analyzed:</i>	04.09.2020 16:21	04.09.2020 16:27	04.09.2020 16:32	04.09.2020 16:37	04.09.2020 16:54	04.09.2020 16:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		176 9.92	76.8 9.96	13.1 10.1	<9.96 9.96	362 9.98	14.3 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44
	<i>Analyzed:</i>	04.09.2020 20:55	04.09.2020 21:15	04.09.2020 21:35	04.09.2020 16:08	04.09.2020 16:29	04.09.2020 14:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<50.2 50.2
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	106 50.2
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<50.2 50.2
Total TPH		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	106 50.2

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

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 658383

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.08.2020 16:41
Report Date: 04.13.2020 11:49
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 658383-007 Field Id: PH01A Depth: 4- ft Matrix: SOIL Sampled: 04.08.2020 08:45					
BTEX by EPA 8021B	Extracted: 04.09.2020 16:49 Analyzed: 04.10.2020 11:12 Units/RL: mg/kg RL					
Benzene	<0.0196 0.0196					
Toluene	<0.0196 0.0196					
Ethylbenzene	<0.0196 0.0196					
m,p-Xylenes	<0.0392 0.0392					
o-Xylene	<0.0196 0.0196					
Xylenes, Total	<0.0196 0.0196					
Total BTEX	<0.0196 0.0196					
Chloride by EPA 300	Extracted: 04.09.2020 14:46 Analyzed: 04.09.2020 17:05 Units/RL: mg/kg RL					
Chloride	<10.0 10.0					
TPH by SW8015 Mod	Extracted: 04.09.2020 12:44 Analyzed: 04.09.2020 15:07 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.3 50.3					
Diesel Range Organics (DRO)	<50.3 50.3					
Motor Oil Range Hydrocarbons (MRO)	<50.3 50.3					
Total GRO-DRO	<50.3 50.3					
Total TPH	<50.3 50.3					

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

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

Jessica Kramer
Project Manager



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: FS77 Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-001 Date Collected: 04.08.2020 13:35 Sample Depth: 5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	9.92	mg/kg	04.09.2020 16:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	04.09.2020 20:55	
o-Terphenyl	84-15-1	121	%	70-135	04.09.2020 20:55	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: FS77
Lab Sample Id: 658383-001

Matrix: Soil
Date Collected: 04.08.2020 13:35

Date Received: 04.08.2020 16:41
Sample Depth: 5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.10.2020 06:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 06:26		
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.10.2020 06:26		



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS78** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-002 Date Collected: 04.08.2020 13:58 Sample Depth: 5.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.8	9.96	mg/kg	04.09.2020 16:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.09.2020 21:15	
o-Terphenyl	84-15-1	124	%	70-135	04.09.2020 21:15	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS78**
 Lab Sample Id: 658383-002

Matrix: Soil
 Date Collected: 04.08.2020 13:58

Date Received: 04.08.2020 16:41
 Sample Depth: 5.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.10.2020 06:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.10.2020 06:47		
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.10.2020 06:47		



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW02** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-003 Date Collected: 04.08.2020 14:25 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	10.1	mg/kg	04.09.2020 16:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	04.09.2020 21:35	
o-Terphenyl	84-15-1	124	%	70-135	04.09.2020 21:35	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW02**
 Lab Sample Id: 658383-003

Matrix: Soil
 Date Collected: 04.08.2020 14:25

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.10.2020 07:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.10.2020 07:07	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.10.2020 07:07	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW03** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-004 Date Collected: 04.08.2020 14:30 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	04.09.2020 16:37	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.09.2020 16:08	
o-Terphenyl	84-15-1	120	%	70-135	04.09.2020 16:08	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW03**
 Lab Sample Id: 658383-004

Matrix: Soil
 Date Collected: 04.08.2020 14:30

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.10.2020 10:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.10.2020 10:31		
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.10.2020 10:31		



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW04** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-005 Date Collected: 04.08.2020 14:45 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	362	9.98	mg/kg	04.09.2020 16:54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.09.2020 16:29	
o-Terphenyl	84-15-1	111	%	70-135	04.09.2020 16:29	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW04**
 Lab Sample Id: 658383-005

Matrix: Soil
 Date Collected: 04.08.2020 14:45

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.10.2020 07:27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 07:27	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 07:27	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-006 Date Collected: 04.08.2020 08:35 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.3	9.98	mg/kg	04.09.2020 16:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 14:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 14:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	106	50.2	mg/kg	04.09.2020 14:06		1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 14:06	U	1
Total TPH	PHC635	106	50.2	mg/kg	04.09.2020 14:06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	04.09.2020 14:06	
o-Terphenyl	84-15-1	120	%	70-135	04.09.2020 14:06	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01**
 Lab Sample Id: 658383-006

Matrix: Soil
 Date Collected: 04.08.2020 08:35

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.10.2020 10:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 10:51	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 10:51	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01A** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-007 Date Collected: 04.08.2020 08:45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.09.2020 17:05	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.09.2020 15:07	
o-Terphenyl	84-15-1	110	%	70-135	04.09.2020 15:07	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01A**
 Lab Sample Id: 658383-007

Matrix: Soil
 Date Collected: 04.08.2020 08:45

Date Received: 04.08.2020 16:41
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	04.10.2020 11:12	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Xylenes, Total	1330-20-7	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.10.2020 11:12	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 11:12	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

MB Sample Id: 7700932-1-BLK

Matrix: Solid

LCS Sample Id: 7700932-1-BKS

Prep Method: E300P

Date Prep: 04.09.2020

LCSD Sample Id: 7700932-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	258	103	90-110	1	20	mg/kg	04.09.2020 15:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

Parent Sample Id: 658381-001

Matrix: Soil

MS Sample Id: 658381-001 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658381-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	118	199	328	106	326	104	90-110	1	20	mg/kg	04.09.2020 15:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

Parent Sample Id: 658383-004

Matrix: Soil

MS Sample Id: 658383-004 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.96	249	247	99	250	100	90-110	1	20	mg/kg	04.09.2020 16:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

MB Sample Id: 7700947-1-BLK

Matrix: Solid

LCS Sample Id: 7700947-1-BKS

Prep Method: SW8015P

Date Prep: 04.09.2020

LCSD Sample Id: 7700947-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1010	101	945	95	70-135	7	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1080	108	70-135	4	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		128		124		70-135	%	04.09.2020 13:25
o-Terphenyl	119		126		124		70-135	%	04.09.2020 13:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

MB Sample Id: 7700958-1-BLK

Matrix: Solid

LCS Sample Id: 7700958-1-BKS

Prep Method: SW8015P

Date Prep: 04.09.2020

LCSD Sample Id: 7700958-1-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	877	88	971	97	70-135	10	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	952	95	1070	107	70-135	12	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		126		119		70-135	%	04.09.2020 13:25
o-Terphenyl	113		112		122		70-135	%	04.09.2020 13:25

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

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

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

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



LT Environmental, Inc.

LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.09.2020

MB Sample Id: 7700947-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

04.09.2020 13:04

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.09.2020

MB Sample Id: 7700958-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

04.09.2020 13:04

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.09.2020

Parent Sample Id: 658406-001

MS Sample Id: 658406-001 S

MSD Sample Id: 658406-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.0

Spike
Amount

999

MS
Result

1020

MS
%Rec

102

MSD
Result

987

MSD
%Rec

98

Limits

70-135

%RPD

3

RPD
Limit

35

Units

mg/kg

Analysis
Date

04.09.2020 14:26

Flag

Diesel Range Organics (DRO)

81.4

999

1130

105

1190

110

70-135

5

35

mg/kg

04.09.2020 14:26

Surrogate

1-Chlorooctane

MS
%Rec

130

MS
FlagMSD
%Rec

126

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

04.09.2020 14:26

o-Terphenyl

134

128

70-135

%

04.09.2020 14:26

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.09.2020

Parent Sample Id: 658383-006

MS Sample Id: 658383-006 S

MSD Sample Id: 658383-006 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.0

Spike
Amount

999

MS
Result

1010

MS
%Rec

101

MSD
Result

1020

MSD
%Rec

102

Limits

70-135

%RPD

1

RPD
Limit

35

Units

mg/kg

Analysis
Date

04.09.2020 14:26

Flag

Diesel Range Organics (DRO)

<50.0

999

1100

110

1130

113

70-135

3

35

mg/kg

04.09.2020 14:26

Surrogate

1-Chlorooctane

MS
%Rec

127

MS
FlagMSD
%Rec

126

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

04.09.2020 14:26

o-Terphenyl

128

129

70-135

%

04.09.2020 14:26

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122575

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.09.2020

MB Sample Id: 7700965-1-BLK

LCS Sample Id: 7700965-1-BKS

LCSD Sample Id: 7700965-1-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	0.110	110	70-130	3	35	mg/kg	04.09.2020 22:37	
Toluene	<0.00200	0.100	0.102	102	0.104	104	70-130	2	35	mg/kg	04.09.2020 22:37	
Ethylbenzene	<0.00200	0.100	0.0961	96	0.0989	99	71-129	3	35	mg/kg	04.09.2020 22:37	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	04.09.2020 22:37	
o-Xylene	<0.00200	0.100	0.0999	100	0.104	104	71-133	4	35	mg/kg	04.09.2020 22:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		105		70-130	%	04.09.2020 22:37
4-Bromofluorobenzene	95		90		94		70-130	%	04.09.2020 22:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122755

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.09.2020

MB Sample Id: 7700968-1-BLK

LCS Sample Id: 7700968-1-BKS

LCSD Sample Id: 7700968-1-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	0.104	104	0.107	107	70-130	3	35	mg/kg	04.10.2020 08:49	
Toluene	<0.00200	0.100	0.0983	98	0.101	101	70-130	3	35	mg/kg	04.10.2020 08:49	
Ethylbenzene	<0.00200	0.100	0.0921	92	0.0943	94	71-129	2	35	mg/kg	04.10.2020 08:49	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.194	97	70-135	3	35	mg/kg	04.10.2020 08:49	
o-Xylene	<0.00200	0.100	0.0965	97	0.0990	99	71-133	3	35	mg/kg	04.10.2020 08:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.10.2020 08:49
4-Bromofluorobenzene	94		93		93		70-130	%	04.10.2020 08:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122575

Matrix: Soil

Prep Method: SW5030B

Date Prep: 04.09.2020

Parent Sample Id: 658342-041

MS Sample Id: 658342-041 S

MSD Sample Id: 658342-041 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	0.119	119	70-130	3	35	mg/kg	04.09.2020 23:18	
Toluene	<0.00200	0.100	0.108	108	0.112	112	70-130	4	35	mg/kg	04.09.2020 23:18	
Ethylbenzene	<0.00200	0.100	0.0996	100	0.103	103	71-129	3	35	mg/kg	04.09.2020 23:18	
m,p-Xylenes	<0.00401	0.200	0.204	102	0.211	106	70-135	3	35	mg/kg	04.09.2020 23:18	
o-Xylene	<0.00200	0.100	0.103	103	0.107	107	71-133	4	35	mg/kg	04.09.2020 23:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		106		70-130	%	04.09.2020 23:18
4-Bromofluorobenzene	91		92		70-130	%	04.09.2020 23:18

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122755

Parent Sample Id: 658383-004

Matrix: Soil

MS Sample Id: 658383-004 S

Prep Method: SW5030B

Date Prep: 04.09.2020

MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0834	83	0.0890	89	70-130	6	35	mg/kg	04.10.2020 09:30	
Toluene	<0.00201	0.100	0.0766	77	0.0811	81	70-130	6	35	mg/kg	04.10.2020 09:30	
Ethylbenzene	<0.00201	0.100	0.0740	74	0.0780	78	71-129	5	35	mg/kg	04.10.2020 09:30	
m,p-Xylenes	<0.00402	0.201	0.155	77	0.164	82	70-135	6	35	mg/kg	04.10.2020 09:30	
o-Xylene	<0.00201	0.100	0.0788	79	0.0837	84	71-133	6	35	mg/kg	04.10.2020 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.10.2020 09:30
4-Bromofluorobenzene	95		94		70-130	%	04.10.2020 09:30

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

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

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

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



Chain of Custody

Work Order No: 658583

Houston, TX (281) 240-4200 Dallas, TX (214) 902-3300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1266 Crashad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 445-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6700

Page 1 of 1
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Project Manager:	Chris Ackisson	Billed to: (if different)	→
Company Name:	LT Environmental	Company Name:	→
Address:	820 Megan Ave Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	970 265 9985	Email:	cmackisson@ltenv.com & chris@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: <u>LVP Gathering System</u>		Turn Around	
Project Number: <u>102720001</u>		Routine ☒	
Project Location: <u>Eddy County</u>		Rush:	
Sampler's Name: <u>Anna Byers</u>		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	<u>11.0</u>	Thermometer ID:			
Received Intact:	☒ Yes ☐ No				
Cooler Custody Seals:	Yes ☐ No ☒	Correction Factor:	<u>-0.2</u>		
Sample Custody Seals:	Yes ☒ No ☐	Total Containers:	<u>7</u>		

ANALYSIS REQUEST										Preservative Codes	
Pres. Code										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	TPH	BTEX	Chlor	Sample Comments
FS77		S	4/6/20	1335	5-6'	1				
FS78				1358	5.5-6'	1				
SW02				1425	0.5-6'	1				
SW03				1430	0.5-6'	1				
SW04				1445	0.5-6'	1				
PTH01				0835	0.5'	1				
PTH01A				0845	4'	1				

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Diana Byers	[Signature]	4/8/00 16:41	2		
3				4		
5				6		

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.08.2020 04.41.00 PM

Work Order #: 658383

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: 04.08.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.09.2020



Analytical Report 658383

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.14.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.14.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **658383**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 658383. 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. 658383 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 658383****LT Environmental, Inc., Arvada, CO**

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS77	S	04.08.2020 13:35	5 - 6 ft	658383-001
FS78	S	04.08.2020 13:58	5.5 - 6 ft	658383-002
SW02	S	04.08.2020 14:25	0.5 - 6 ft	658383-003
SW03	S	04.08.2020 14:30	0.5 - 6 ft	658383-004
SW04	S	04.08.2020 14:45	0.5 - 6 ft	658383-005
PH01	S	04.08.2020 08:35	0.5 ft	658383-006
PH01A	S	04.08.2020 08:45	4 ft	658383-007



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 658383

Report Date: 04.14.2020
Date Received: 04.08.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122575 BTEX by EPA 8021B

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

Batch: LBA-3122755 BTEX by EPA 8021B

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



Certificate of Analysis Summary 658383

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.08.2020 16:41
Report Date: 04.14.2020 10:28
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	658383-001	658383-002	658383-003	658383-004	658383-005	658383-006
	Field Id:	FS77	FS78	SW02	SW03	SW04	PH01
	Depth:	5-6 ft	5.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	04.08.2020 13:35	04.08.2020 13:58	04.08.2020 14:25	04.08.2020 14:30	04.08.2020 14:45	04.08.2020 08:35
BTEX by EPA 8021B	Extracted:	04.09.2020 16:42	04.09.2020 16:42	04.09.2020 16:42	04.09.2020 16:49	04.09.2020 16:42	04.09.2020 16:49
	Analyzed:	04.10.2020 06:26	04.10.2020 06:47	04.10.2020 07:07	04.10.2020 10:31	04.10.2020 07:27	04.10.2020 10:51
	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	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00401 0.00401	<0.00404 0.00404	<0.00401 0.00401	<0.00403 0.00403	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Xylenes, Total		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Chloride by EPA 300	Extracted:	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46	04.09.2020 14:46
	Analyzed:	04.09.2020 16:21	04.09.2020 16:27	04.09.2020 16:32	04.09.2020 16:37	04.09.2020 16:54	04.09.2020 16:59
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		176 9.92	76.8 9.96	13.1 10.1	<9.96 9.96	362 9.98	14.3 9.98
TPH by SW8015 Mod	Extracted:	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44	04.09.2020 12:44
	Analyzed:	04.09.2020 20:55	04.09.2020 21:15	04.09.2020 21:35	04.09.2020 16:08	04.09.2020 16:29	04.09.2020 14:06
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	79.0 49.9
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	<49.9 49.9
Total TPH		<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.2 50.2	<50.0 50.0	79.0 49.9

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 658383

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.08.2020 16:41
Report Date: 04.14.2020 10:28
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 658383-007 Field Id: PH01A Depth: 4- ft Matrix: SOIL Sampled: 04.08.2020 08:45					
BTEX by EPA 8021B	Extracted: 04.09.2020 16:49 Analyzed: 04.10.2020 11:12 Units/RL: mg/kg RL					
Benzene	<0.0196 0.0196					
Toluene	<0.0196 0.0196					
Ethylbenzene	<0.0196 0.0196					
m,p-Xylenes	<0.0392 0.0392					
o-Xylene	<0.0196 0.0196					
Xylenes, Total	<0.0196 0.0196					
Total BTEX	<0.0196 0.0196					
Chloride by EPA 300	Extracted: 04.09.2020 14:46 Analyzed: 04.09.2020 17:05 Units/RL: mg/kg RL					
Chloride	<10.0 10.0					
TPH by SW8015 Mod	Extracted: 04.09.2020 12:44 Analyzed: 04.09.2020 15:07 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.3 50.3					
Diesel Range Organics (DRO)	<50.3 50.3					
Motor Oil Range Hydrocarbons (MRO)	<50.3 50.3					
Total GRO-DRO	<50.3 50.3					
Total TPH	<50.3 50.3					

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

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

Jessica Kramer
Project Manager



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: FS77 Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-001 Date Collected: 04.08.2020 13:35 Sample Depth: 5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	9.92	mg/kg	04.09.2020 16:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 20:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	04.09.2020 20:55	
o-Terphenyl	84-15-1	121	%	70-135	04.09.2020 20:55	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: FS77
Lab Sample Id: 658383-001

Matrix: Soil
Date Collected: 04.08.2020 13:35

Date Received: 04.08.2020 16:41
Sample Depth: 5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.10.2020 06:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 06:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 06:26	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.10.2020 06:26	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS78** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-002 Date Collected: 04.08.2020 13:58 Sample Depth: 5.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.8	9.96	mg/kg	04.09.2020 16:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 21:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.09.2020 21:15	
o-Terphenyl	84-15-1	124	%	70-135	04.09.2020 21:15	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS78**
 Lab Sample Id: 658383-002

Matrix: Soil
 Date Collected: 04.08.2020 13:58

Date Received: 04.08.2020 16:41
 Sample Depth: 5.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.10.2020 06:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 06:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.10.2020 06:47	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.10.2020 06:47	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW02** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-003 Date Collected: 04.08.2020 14:25 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	10.1	mg/kg	04.09.2020 16:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.09.2020 21:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	04.09.2020 21:35	
o-Terphenyl	84-15-1	124	%	70-135	04.09.2020 21:35	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW02**
 Lab Sample Id: 658383-003

Matrix: Soil
 Date Collected: 04.08.2020 14:25

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.10.2020 07:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.10.2020 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.10.2020 07:07	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.10.2020 07:07	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW03**
Lab Sample Id: 658383-004

Matrix: Soil
Date Collected: 04.08.2020 14:30

Date Received: 04.08.2020 16:41
Sample Depth: 0.5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3122582

Date Prep: 04.09.2020 14:46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	04.09.2020 16:37	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3122635

Date Prep: 04.09.2020 12:44

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 16:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.09.2020 16:08	
o-Terphenyl	84-15-1	120	%	70-135	04.09.2020 16:08	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW03**
 Lab Sample Id: 658383-004

Matrix: Soil
 Date Collected: 04.08.2020 14:30

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.10.2020 10:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 10:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.10.2020 10:31		
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.10.2020 10:31		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW04** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-005 Date Collected: 04.08.2020 14:45 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	362	9.98	mg/kg	04.09.2020 16:54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.09.2020 16:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.09.2020 16:29	
o-Terphenyl	84-15-1	111	%	70-135	04.09.2020 16:29	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW04**
 Lab Sample Id: 658383-005

Matrix: Soil
 Date Collected: 04.08.2020 14:45

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:42

Basis: Wet Weight

Seq Number: 3122575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.10.2020 07:27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.10.2020 07:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 07:27		
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 07:27		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-006 Date Collected: 04.08.2020 08:35 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.3	9.98	mg/kg	04.09.2020 16:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.13.2020 14:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.13.2020 14:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	79.0	49.9	mg/kg	04.13.2020 14:15		1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.13.2020 14:15	U	1
Total TPH	PHC635	79.0	49.9	mg/kg	04.13.2020 14:15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	04.09.2020 14:06	
o-Terphenyl	84-15-1	120	%	70-135	04.09.2020 14:06	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01**
 Lab Sample Id: 658383-006

Matrix: Soil
 Date Collected: 04.08.2020 08:35

Date Received: 04.08.2020 16:41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.10.2020 10:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 10:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 10:51		
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 10:51		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01A** Matrix: Soil Date Received: 04.08.2020 16:41
 Lab Sample Id: 658383-007 Date Collected: 04.08.2020 08:45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.09.2020 14:46 Basis: Wet Weight
 Seq Number: 3122582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.09.2020 17:05	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.09.2020 12:44 Basis: Wet Weight
 Seq Number: 3122635

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.09.2020 15:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.09.2020 15:07	
o-Terphenyl	84-15-1	110	%	70-135	04.09.2020 15:07	



Certificate of Analytical Results 658383

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **PH01A**
 Lab Sample Id: 658383-007

Matrix: Soil
 Date Collected: 04.08.2020 08:45

Date Received: 04.08.2020 16:41
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.09.2020 16:49

Basis: Wet Weight

Seq Number: 3122755

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	04.10.2020 11:12	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Xylenes, Total	1330-20-7	<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.10.2020 11:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.10.2020 11:12	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.10.2020 11:12	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

MB Sample Id: 7700932-1-BLK

Matrix: Solid

LCS Sample Id: 7700932-1-BKS

Prep Method: E300P

Date Prep: 04.09.2020

LCSD Sample Id: 7700932-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	258	103	90-110	1	20	mg/kg	04.09.2020 15:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

Parent Sample Id: 658381-001

Matrix: Soil

MS Sample Id: 658381-001 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658381-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	118	199	328	106	326	104	90-110	1	20	mg/kg	04.09.2020 15:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3122582

Parent Sample Id: 658383-004

Matrix: Soil

MS Sample Id: 658383-004 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.96	249	247	99	250	100	90-110	1	20	mg/kg	04.09.2020 16:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

MB Sample Id: 7700947-1-BLK

Matrix: Solid

LCS Sample Id: 7700947-1-BKS

Prep Method: SW8015P

Date Prep: 04.09.2020

LCSD Sample Id: 7700947-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1010	101	945	95	70-135	7	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1080	108	70-135	4	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		128		124		70-135	%	04.09.2020 13:25
o-Terphenyl	119		126		124		70-135	%	04.09.2020 13:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

MB Sample Id: 7700958-1-BLK

Matrix: Solid

LCS Sample Id: 7700958-1-BKS

Prep Method: SW8015P

Date Prep: 04.09.2020

LCSD Sample Id: 7700958-1-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	877	88	971	97	70-135	10	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	952	95	1070	107	70-135	12	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		126		119		70-135	%	04.09.2020 13:25
o-Terphenyl	113		112		122		70-135	%	04.09.2020 13:25

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

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

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

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



LT Environmental, Inc.

LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.09.2020

MB Sample Id: 7700947-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

04.09.2020 13:04

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.09.2020

MB Sample Id: 7700958-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

04.09.2020 13:04

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122574

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.09.2020

Parent Sample Id: 658406-001

MS Sample Id: 658406-001 S

MSD Sample Id: 658406-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.0

Spike
Amount

999

MS
Result

1020

MS
%Rec

102

MSD
Result

987

MSD
%Rec

98

Limits

70-135

%RPD

3

RPD
Limit

35

Units

mg/kg

Analysis
Date

04.09.2020 14:26

Flag

Diesel Range Organics (DRO)

81.4

999

1130

105

1190

110

70-135

5

35

mg/kg

04.09.2020 14:26

Surrogate

1-Chlorooctane

MS
%Rec

130

MS
FlagMSD
%Rec

126

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

04.09.2020 14:26

o-Terphenyl

134

128

70-135

%

04.09.2020 14:26

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122635

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.09.2020

Parent Sample Id: 658383-006

MS Sample Id: 658383-006 S

MSD Sample Id: 658383-006 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.0

Spike
Amount

999

MS
Result

1010

MS
%Rec

101

MSD
Result

1020

MSD
%Rec

102

Limits

70-135

%RPD

1

RPD
Limit

35

Units

mg/kg

Analysis
Date

04.09.2020 14:26

Flag

Diesel Range Organics (DRO)

<50.0

999

1100

110

1130

113

70-135

3

35

mg/kg

04.09.2020 14:26

Surrogate

1-Chlorooctane

MS
%Rec

127

MS
FlagMSD
%Rec

126

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

04.09.2020 14:26

o-Terphenyl

128

129

70-135

%

04.09.2020 14:26

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122575

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.09.2020

MB Sample Id: 7700965-1-BLK

LCS Sample Id: 7700965-1-BKS

LCSD Sample Id: 7700965-1-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	0.110	110	70-130	3	35	mg/kg	04.09.2020 22:37	
Toluene	<0.00200	0.100	0.102	102	0.104	104	70-130	2	35	mg/kg	04.09.2020 22:37	
Ethylbenzene	<0.00200	0.100	0.0961	96	0.0989	99	71-129	3	35	mg/kg	04.09.2020 22:37	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	04.09.2020 22:37	
o-Xylene	<0.00200	0.100	0.0999	100	0.104	104	71-133	4	35	mg/kg	04.09.2020 22:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		105		70-130	%	04.09.2020 22:37
4-Bromofluorobenzene	95		90		94		70-130	%	04.09.2020 22:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122755

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.09.2020

MB Sample Id: 7700968-1-BLK

LCS Sample Id: 7700968-1-BKS

LCSD Sample Id: 7700968-1-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	0.104	104	0.107	107	70-130	3	35	mg/kg	04.10.2020 08:49	
Toluene	<0.00200	0.100	0.0983	98	0.101	101	70-130	3	35	mg/kg	04.10.2020 08:49	
Ethylbenzene	<0.00200	0.100	0.0921	92	0.0943	94	71-129	2	35	mg/kg	04.10.2020 08:49	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.194	97	70-135	3	35	mg/kg	04.10.2020 08:49	
o-Xylene	<0.00200	0.100	0.0965	97	0.0990	99	71-133	3	35	mg/kg	04.10.2020 08:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.10.2020 08:49
4-Bromofluorobenzene	94		93		93		70-130	%	04.10.2020 08:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122575

Matrix: Soil

Prep Method: SW5030B

Date Prep: 04.09.2020

Parent Sample Id: 658342-041

MS Sample Id: 658342-041 S

MSD Sample Id: 658342-041 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	0.119	119	70-130	3	35	mg/kg	04.09.2020 23:18	
Toluene	<0.00200	0.100	0.108	108	0.112	112	70-130	4	35	mg/kg	04.09.2020 23:18	
Ethylbenzene	<0.00200	0.100	0.0996	100	0.103	103	71-129	3	35	mg/kg	04.09.2020 23:18	
m,p-Xylenes	<0.00401	0.200	0.204	102	0.211	106	70-135	3	35	mg/kg	04.09.2020 23:18	
o-Xylene	<0.00200	0.100	0.103	103	0.107	107	71-133	4	35	mg/kg	04.09.2020 23:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		106		70-130	%	04.09.2020 23:18
4-Bromofluorobenzene	91		92		70-130	%	04.09.2020 23:18

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122755

Parent Sample Id: 658383-004

Matrix: Soil

MS Sample Id: 658383-004 S

Prep Method: SW5030B

Date Prep: 04.09.2020

MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0834	83	0.0890	89	70-130	6	35	mg/kg	04.10.2020 09:30	
Toluene	<0.00201	0.100	0.0766	77	0.0811	81	70-130	6	35	mg/kg	04.10.2020 09:30	
Ethylbenzene	<0.00201	0.100	0.0740	74	0.0780	78	71-129	5	35	mg/kg	04.10.2020 09:30	
m,p-Xylenes	<0.00402	0.201	0.155	77	0.164	82	70-135	6	35	mg/kg	04.10.2020 09:30	
o-Xylene	<0.00201	0.100	0.0788	79	0.0837	84	71-133	6	35	mg/kg	04.10.2020 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.10.2020 09:30
4-Bromofluorobenzene	95		94		70-130	%	04.10.2020 09:30

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

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

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

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



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

Chain of Custody

Work Order No:

1058583

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Page 1 of 1

Project Manager:	Chris McElissan	Bit to (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81660	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckissan@ltenv.com + cbyers@ltenv.com

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

Project Name:	LVP Gathering System	Turn Around	☒	Pres. Code	
Project Number:	102720001	Routine			
Project Location:	Eddy County	Rush:			
Sampler's Name:	Anna Byers	Due Date:			
PO #:		Quote #:			

SAMPLE RECEIPT	Temp Blank:	Yes/No	Wet Ice:	Yes/No	Thermometer ID	
Temperature (°C):	1.0					
Received Intact:	Yes/No					
Cooler Custody Seals:	Yes/No					
Sample Custody Seals:	Yes/No					
Correction Factor:	-0.2					
Total Containers:	7					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 800.0)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS77		S	4/8/20	1335	5-6'	1						
FS78				1358	5.5-6'	1						
SWD2				1425	0.5-6'	1						
SWD3				1430	0.5-6'	1						
SWD4				1445	0.5-6'	1						
PTH1				0835	0.5'	1						
PTH1A				0845	4'	1						

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		4/8/20 16:41			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.08.2020 04.41.00 PM

Work Order #: 658383

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: 04.08.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.09.2020



Analytical Report 658612

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.14.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.14.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **658612**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 658612. 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. 658612 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 658612****LT Environmental, Inc., Arvada, CO**

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW06	S	04.10.2020 10:45	0.5 - 6 ft	658612-001
SW05	S	04.10.2020 07:38	0.5 - 6 ft	658612-002
SW15	S	04.10.2020 09:10	0.5 - 6 ft	658612-003
SW07	S	04.10.2020 11:30	0.5 - 6 ft	658612-004
SW08	S	04.10.2020 14:00	0.5 - 7 ft	658612-005



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 658612

Report Date: 04.14.2020
Date Received: 04.10.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122893 BTEX by EPA 8021B

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



Certificate of Analysis Summary 658612

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 04.10.2020 14:52
Report Date: 04.14.2020 13:52
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	658612-001	658612-002	658612-003	658612-004	658612-005	
	Field Id:	SW06	SW05	SW15	SW07	SW08	
	Depth:	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-7 ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	04.10.2020 10:45	04.10.2020 07:38	04.10.2020 09:10	04.10.2020 11:30	04.10.2020 14:00	
BTEX by EPA 8021B	Extracted:	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	
	Analyzed:	04.13.2020 14:05	04.13.2020 14:25	04.13.2020 14:46	04.13.2020 15:06	04.13.2020 16:07	
	Units/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	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
Xylenes, Total		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	
Chloride by EPA 300	Extracted:	04.11.2020 09:13	04.11.2020 09:13	04.11.2020 09:13	04.11.2020 09:13	04.11.2020 09:13	
	Analyzed:	04.11.2020 16:12	04.11.2020 16:30	04.11.2020 16:36	04.11.2020 16:42	04.11.2020 16:48	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		440 9.86	<9.98 9.98	46.8 9.98	12.7 9.98	15.0 10.0	
TPH by SW8015 Mod	Extracted:	04.10.2020 16:00	04.10.2020 16:00	04.10.2020 16:00	04.10.2020 16:00	04.10.2020 16:00	
	Analyzed:	04.11.2020 03:52	04.11.2020 04:12	04.11.2020 04:33	04.11.2020 04:53	04.11.2020 05:13	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.2 50.2	<50.3 50.3	
Diesel Range Organics (DRO)		<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.2 50.2	<50.3 50.3	
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.2 50.2	<50.3 50.3	
Total GRO-DRO		<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.2 50.2	<50.3 50.3	
Total TPH		<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.2 50.2	<50.3 50.3	

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

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

Jessica Kramer
Project Manager



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW06** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658612-001 Date Collected: 04.10.2020 10:45 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 09:13 Basis: Wet Weight
 Seq Number: 3122773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	440	9.86	mg/kg	04.11.2020 16:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 16:00 Basis: Wet Weight
 Seq Number: 3122832

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.11.2020 03:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.11.2020 03:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.11.2020 03:52	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.11.2020 03:52	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.11.2020 03:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.11.2020 03:52	
o-Terphenyl	84-15-1	94	%	70-135	04.11.2020 03:52	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW06**
 Lab Sample Id: 658612-001

Matrix: Soil
 Date Collected: 04.10.2020 10:45

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3122893

Prep Method: SW5030B

% Moisture:

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 14:05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 14:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 14:05	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.13.2020 14:05	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW05**
Lab Sample Id: 658612-002

Matrix: Soil
Date Collected: 04.10.2020 07:38

Date Received: 04.10.2020 14:52
Sample Depth: 0.5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3122773

Date Prep: 04.11.2020 09:13

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	04.11.2020 16:30	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3122832

Date Prep: 04.10.2020 16:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.11.2020 04:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.11.2020 04:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.11.2020 04:12	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.11.2020 04:12	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.11.2020 04:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.11.2020 04:12	
o-Terphenyl	84-15-1	99	%	70-135	04.11.2020 04:12	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW05**
 Lab Sample Id: 658612-002

Matrix: Soil
 Date Collected: 04.10.2020 07:38

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 14:25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 14:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 14:25	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.13.2020 14:25	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW15** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658612-003 Date Collected: 04.10.2020 09:10 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 09:13 Basis: Wet Weight
 Seq Number: 3122773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.8	9.98	mg/kg	04.11.2020 16:36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 16:00 Basis: Wet Weight
 Seq Number: 3122832

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.11.2020 04:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.11.2020 04:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.11.2020 04:33	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.11.2020 04:33	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.11.2020 04:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	04.11.2020 04:33	
o-Terphenyl	84-15-1	94	%	70-135	04.11.2020 04:33	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW15**
 Lab Sample Id: 658612-003

Matrix: Soil
 Date Collected: 04.10.2020 09:10

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.13.2020 14:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 14:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.13.2020 14:46	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 14:46	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW07** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658612-004 Date Collected: 04.10.2020 11:30 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 09:13 Basis: Wet Weight
 Seq Number: 3122773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.7	9.98	mg/kg	04.11.2020 16:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 16:00 Basis: Wet Weight
 Seq Number: 3122832

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.11.2020 04:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.11.2020 04:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.11.2020 04:53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.11.2020 04:53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.11.2020 04:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.11.2020 04:53	
o-Terphenyl	84-15-1	96	%	70-135	04.11.2020 04:53	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW07**
 Lab Sample Id: 658612-004

Matrix: Soil
 Date Collected: 04.10.2020 11:30

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 15:06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 15:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 15:06	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.13.2020 15:06	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW08**
Lab Sample Id: 658612-005

Matrix: Soil
Date Collected: 04.10.2020 14:00

Date Received: 04.10.2020 14:52
Sample Depth: 0.5 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3122773

Date Prep: 04.11.2020 09:13

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.0	10.0	mg/kg	04.11.2020 16:48		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3122832

Date Prep: 04.10.2020 16:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.11.2020 05:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.11.2020 05:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.11.2020 05:13	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.11.2020 05:13	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.11.2020 05:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.11.2020 05:13	
o-Terphenyl	84-15-1	94	%	70-135	04.11.2020 05:13	



Certificate of Analytical Results 658612

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW08**
 Lab Sample Id: 658612-005

Matrix: Soil
 Date Collected: 04.10.2020 14:00

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 16:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 16:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.13.2020 16:07		
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.13.2020 16:07		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

MB Sample Id: 7701110-1-BLK

Matrix: Solid

LCS Sample Id: 7701110-1-BKS

Prep Method: E300P

Date Prep: 04.11.2020

LCSD Sample Id: 7701110-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	262	105	90-110	2	20	mg/kg	04.11.2020 14:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

Parent Sample Id: 658610-016

Matrix: Soil

MS Sample Id: 658610-016 S

Prep Method: E300P

Date Prep: 04.11.2020

MSD Sample Id: 658610-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1420	200	1620	100	1630	105	90-110	1	20	mg/kg	04.11.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

Parent Sample Id: 658616-061

Matrix: Soil

MS Sample Id: 658616-061 S

Prep Method: E300P

Date Prep: 04.11.2020

MSD Sample Id: 658616-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	64.7	199	274	105	272	104	90-110	1	20	mg/kg	04.11.2020 14:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122832

MB Sample Id: 7701070-1-BLK

Matrix: Solid

LCS Sample Id: 7701070-1-BKS

Prep Method: SW8015P

Date Prep: 04.10.2020

LCSD Sample Id: 7701070-1-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	771	77	935	94	70-135	19	35	mg/kg	04.11.2020 01:10	
Diesel Range Organics (DRO)	<50.0	1000	709	71	857	86	70-135	19	35	mg/kg	04.11.2020 01:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		85		101		70-135	%	04.11.2020 01:10
o-Terphenyl	91		84		99		70-135	%	04.11.2020 01:10

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122832

Matrix: Solid

MB Sample Id: 7701070-1-BLK

Prep Method: SW8015P

Date Prep: 04.10.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.11.2020 00:50	

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122832

Parent Sample Id: 658610-014

Matrix: Soil

MS Sample Id: 658610-014 S

Prep Method: SW8015P

Date Prep: 04.10.2020

MSD Sample Id: 658610-014 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	885	89	898	90	70-135	1	35	mg/kg	04.11.2020 02:11	
Diesel Range Organics (DRO)	<50.0	999	819	82	833	83	70-135	2	35	mg/kg	04.11.2020 02:11	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		104		70-135	%	04.11.2020 02:11
o-Terphenyl	102		102		70-135	%	04.11.2020 02:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122893

MB Sample Id: 7701120-1-BLK

Matrix: Solid

LCS Sample Id: 7701120-1-BKS

Prep Method: SW5030B

Date Prep: 04.13.2020

LCSD Sample Id: 7701120-1-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	0.105	105	0.109	109	70-130	4	35	mg/kg	04.13.2020 10:21	
Toluene	<0.00200	0.100	0.101	101	0.105	105	70-130	4	35	mg/kg	04.13.2020 10:21	
Ethylbenzene	<0.00200	0.100	0.0959	96	0.0998	100	71-129	4	35	mg/kg	04.13.2020 10:21	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.207	104	70-135	3	35	mg/kg	04.13.2020 10:21	
o-Xylene	<0.00200	0.100	0.100	100	0.104	104	71-133	4	35	mg/kg	04.13.2020 10:21	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		104		70-130	%	04.13.2020 10:21
4-Bromofluorobenzene	97		91		92		70-130	%	04.13.2020 10:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122893

Parent Sample Id: 658613-001

Matrix: Soil

MS Sample Id: 658613-001 S

Prep Method: SW5030B

Date Prep: 04.13.2020

MSD Sample Id: 658613-001 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	0.109	109	0.0899	89	70-130	19	35	mg/kg	04.13.2020 11:01	
Toluene	<0.00200	0.0998	0.105	105	0.0857	85	70-130	20	35	mg/kg	04.13.2020 11:01	
Ethylbenzene	<0.00200	0.0998	0.0970	97	0.0770	76	71-129	23	35	mg/kg	04.13.2020 11:01	
m,p-Xylenes	<0.00399	0.200	0.201	101	0.157	78	70-135	25	35	mg/kg	04.13.2020 11:01	
o-Xylene	<0.00200	0.0998	0.101	101	0.0795	79	71-133	24	35	mg/kg	04.13.2020 11:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	04.13.2020 11:01
4-Bromofluorobenzene	97		93		70-130	%	04.13.2020 11:01

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

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

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

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



Chain of Custody

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

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasabad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-67

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Page _____ of _____

Work Order No:

8612

Project Manager:	Chris McKisson	Billed to: (if different)	→
Company Name:	LT Environmental	Company Name:	→
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckisson@hewsondalyers.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: _____			

ANALYSIS REQUEST										Preservative Codes	
Project Name:		LVR Gathering System		Turn Around		Pres. Code					
Project Number:		102720001		Routine		Rush:					
Project Location		Edley County		Due Date:							
Sampler's Name:		Anna Byers		Quote #:							
PO #:											
SAMPLE RECEIPT											
Temperature (°C):		1.8		Temp Blank: ☒ Yes ☐ No		Wet Ice: ☒ Yes ☐ No					
Received Intact:		☒ Yes ☐ No		Thermometer ID		T-NK-207					
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					
SW06		S	4/10/20	1045	0.5-6'	1	X	X	X		
SW05		S		0738	0.5-6'	1	X	X	X		
SW15		S		0910	0.5-6'	1	X	X	X		
SW07		S		1130	0.5-6'	1	X	X	X		
SW08		S		1400	0.5-7'	1	X	X	X		
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											

[illegible]

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>June Byro</i>	<i>[Signature]</i>	4/10/20 1452			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.10.2020 02:52.00 PM

Work Order #: 658612

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

* 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: 04.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.13.2020



Analytical Report 658613

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.14.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.14.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **658613**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 658613. 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. 658613 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 658613****LT Environmental, Inc., Arvada, CO**

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	04.09.2020 12:05	0.5 - 6 ft	658613-001
SW14	S	04.09.2020 11:10	0.5 - 6 ft	658613-002
SW16	S	04.09.2020 11:25	0.5 - 6 ft	658613-003
SW18	S	04.09.2020 12:30	0.5 - 6 ft	658613-004
SW21	S	04.09.2020 12:55	0.5 - 6 ft	658613-005
FS79	S	04.09.2020 09:50	5.5 - 6 ft	658613-006
FS80	S	04.09.2020 09:58	5.5 - 6 ft	658613-007
FS82	S	04.09.2020 10:30	5.5 - 6 ft	658613-008



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 658613

Report Date: 04.14.2020
Date Received: 04.10.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122893 BTEX by EPA 8021B

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



Certificate of Analysis Summary 658613

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 04.10.2020 14:52
Report Date: 04.14.2020 13:51
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	658613-001	658613-002	658613-003	658613-004	658613-005	658613-006
	<i>Field Id:</i>	SW01	SW14	SW16	SW18	SW21	FS79
	<i>Depth:</i>	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-6 ft	0.5-6 ft	5.5-6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.09.2020 12:05	04.09.2020 11:10	04.09.2020 11:25	04.09.2020 12:30	04.09.2020 12:55	04.09.2020 09:50
BTEX by EPA 8021B	<i>Extracted:</i>	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32	04.13.2020 09:32
	<i>Analyzed:</i>	04.13.2020 12:03	04.13.2020 16:28	04.13.2020 16:48	04.13.2020 17:09	04.13.2020 17:29	04.13.2020 17:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00397 0.00397	<0.00402 0.00402	<0.00404 0.00404	<0.00404 0.00404
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Xylenes, Total		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	04.11.2020 09:13	04.11.2020 09:13	04.11.2020 09:13	04.11.2020 10:16	04.11.2020 10:16	04.11.2020 10:16
	<i>Analyzed:</i>	04.11.2020 16:54	04.11.2020 17:00	04.11.2020 17:06	04.11.2020 17:53	04.11.2020 17:59	04.11.2020 18:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.1 10.0	141 9.98	599 10.0	64.1 9.96	163 10.0	408 9.94
TPH by SW8015 Mod	<i>Extracted:</i>	04.10.2020 18:00	04.10.2020 18:00	04.10.2020 18:00	04.10.2020 18:00	04.10.2020 18:00	04.13.2020 11:00
	<i>Analyzed:</i>	04.13.2020 22:22	04.13.2020 22:42	04.13.2020 23:03	04.13.2020 23:23	04.13.2020 23:43	04.14.2020 03:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9
Diesel Range Organics (DRO)		<50.2 50.2	<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9
Total GRO-DRO		<50.2 50.2	<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9
Total TPH		<50.2 50.2	<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9

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

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 658613

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 04.10.2020 14:52
Report Date: 04.14.2020 13:51
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	658613-007	658613-008				
	Field Id:	FS80	FS82				
	Depth:	5.5-6 ft	5.5-6 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	04.09.2020 09:58	04.09.2020 10:30				
BTEX by EPA 8021B	Extracted:	04.13.2020 09:32	04.13.2020 09:32				
	Analyzed:	04.13.2020 18:10	04.13.2020 18:30				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00202 0.00202	<0.00200 0.00200				
	Toluene	<0.00202 0.00202	<0.00200 0.00200				
	Ethylbenzene	<0.00202 0.00202	<0.00200 0.00200				
	m,p-Xylenes	<0.00404 0.00404	<0.00399 0.00399				
	o-Xylene	<0.00202 0.00202	<0.00200 0.00200				
	Xylenes, Total	<0.00202 0.00202	<0.00200 0.00200				
	Total BTEX	<0.00202 0.00202	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	04.11.2020 10:16	04.11.2020 10:16				
	Analyzed:	04.11.2020 18:11	04.11.2020 18:17				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	13.2 9.98	457 9.92				
TPH by SW8015 Mod	Extracted:	04.13.2020 11:00	04.13.2020 11:00				
	Analyzed:	04.14.2020 04:04	04.14.2020 04:24				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<49.9 49.9	<50.1 50.1				
	Diesel Range Organics (DRO)	<49.9 49.9	<50.1 50.1				
	Motor Oil Range Hydrocarbons (MRO)	<49.9 49.9	<50.1 50.1				
	Total GRO-DRO	<49.9 49.9	<50.1 50.1				
	Total TPH	<49.9 49.9	<50.1 50.1				

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

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Jessica Kramer
Project Manager



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW01**
Lab Sample Id: 658613-001

Matrix: Soil
Date Collected: 04.09.2020 12:05

Date Received: 04.10.2020 14:52
Sample Depth: 0.5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3122773

Date Prep: 04.11.2020 09:13

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	10.0	mg/kg	04.11.2020 16:54		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3122924

Date Prep: 04.10.2020 18:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.13.2020 22:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.13.2020 22:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.13.2020 22:22	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.13.2020 22:22	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.13.2020 22:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.13.2020 22:22	
o-Terphenyl	84-15-1	98	%	70-135	04.13.2020 22:22	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW01**
 Lab Sample Id: 658613-001

Matrix: Soil
 Date Collected: 04.09.2020 12:05

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 12:03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 12:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.13.2020 12:03	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.13.2020 12:03	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW14**
Lab Sample Id: 658613-002

Matrix: Soil
Date Collected: 04.09.2020 11:10

Date Received: 04.10.2020 14:52
Sample Depth: 0.5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3122773

Date Prep: 04.11.2020 09:13

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	9.98	mg/kg	04.11.2020 17:00		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3122924

Date Prep: 04.10.2020 18:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.13.2020 22:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.13.2020 22:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.13.2020 22:42	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.13.2020 22:42	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.13.2020 22:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	04.13.2020 22:42	
o-Terphenyl	84-15-1	93	%	70-135	04.13.2020 22:42	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW14**
 Lab Sample Id: 658613-002

Matrix: Soil
 Date Collected: 04.09.2020 11:10

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 16:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 16:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 16:28	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.13.2020 16:28	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW16** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-003 Date Collected: 04.09.2020 11:25 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 09:13 Basis: Wet Weight
 Seq Number: 3122773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	599	10.0	mg/kg	04.11.2020 17:06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 18:00 Basis: Wet Weight
 Seq Number: 3122924

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.13.2020 23:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.13.2020 23:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.13.2020 23:03	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.13.2020 23:03	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.13.2020 23:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.13.2020 23:03	
o-Terphenyl	84-15-1	98	%	70-135	04.13.2020 23:03	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW16**
 Lab Sample Id: 658613-003

Matrix: Soil
 Date Collected: 04.09.2020 11:25

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.13.2020 16:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.13.2020 16:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 16:48	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.13.2020 16:48	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW18** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-004 Date Collected: 04.09.2020 12:30 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 10:16 Basis: Wet Weight
 Seq Number: 3122776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.1	9.96	mg/kg	04.11.2020 17:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 18:00 Basis: Wet Weight
 Seq Number: 3122924

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.13.2020 23:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.13.2020 23:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.13.2020 23:23	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.13.2020 23:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.13.2020 23:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.13.2020 23:23	
o-Terphenyl	84-15-1	100	%	70-135	04.13.2020 23:23	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW18**
 Lab Sample Id: 658613-004

Matrix: Soil
 Date Collected: 04.09.2020 12:30

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 17:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 17:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.13.2020 17:09	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 17:09	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW21** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-005 Date Collected: 04.09.2020 12:55 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 10:16 Basis: Wet Weight
 Seq Number: 3122776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	163	10.0	mg/kg	04.11.2020 17:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.10.2020 18:00 Basis: Wet Weight
 Seq Number: 3122924

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.13.2020 23:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.13.2020 23:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.13.2020 23:43	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.13.2020 23:43	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.13.2020 23:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	04.13.2020 23:43	
o-Terphenyl	84-15-1	93	%	70-135	04.13.2020 23:43	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW21**
 Lab Sample Id: 658613-005

Matrix: Soil
 Date Collected: 04.09.2020 12:55

Date Received: 04.10.2020 14:52
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.13.2020 17:29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 17:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 17:29	
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.13.2020 17:29	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS79** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-006 Date Collected: 04.09.2020 09:50 Sample Depth: 5.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 10:16 Basis: Wet Weight
 Seq Number: 3122776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	408	9.94	mg/kg	04.11.2020 18:05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.13.2020 11:00 Basis: Wet Weight
 Seq Number: 3122934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.14.2020 03:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.14.2020 03:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.14.2020 03:04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.14.2020 03:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.14.2020 03:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.14.2020 03:04	
o-Terphenyl	84-15-1	112	%	70-135	04.14.2020 03:04	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS79**
 Lab Sample Id: 658613-006

Matrix: Soil
 Date Collected: 04.09.2020 09:50

Date Received: 04.10.2020 14:52
 Sample Depth: 5.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.13.2020 17:49	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 17:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.13.2020 17:49	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.13.2020 17:49	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS80** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-007 Date Collected: 04.09.2020 09:58 Sample Depth: 5.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 10:16 Basis: Wet Weight
 Seq Number: 3122776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.2	9.98	mg/kg	04.11.2020 18:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.13.2020 11:00 Basis: Wet Weight
 Seq Number: 3122934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.14.2020 04:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.14.2020 04:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.14.2020 04:04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.14.2020 04:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.14.2020 04:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	04.14.2020 04:04	
o-Terphenyl	84-15-1	114	%	70-135	04.14.2020 04:04	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS80**
 Lab Sample Id: 658613-007

Matrix: Soil
 Date Collected: 04.09.2020 09:58

Date Received: 04.10.2020 14:52
 Sample Depth: 5.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.13.2020 18:10	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 18:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 18:10	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.13.2020 18:10	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS82** Matrix: Soil Date Received: 04.10.2020 14:52
 Lab Sample Id: 658613-008 Date Collected: 04.09.2020 10:30 Sample Depth: 5.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.11.2020 10:16 Basis: Wet Weight
 Seq Number: 3122776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	457	9.92	mg/kg	04.11.2020 18:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.13.2020 11:00 Basis: Wet Weight
 Seq Number: 3122934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.14.2020 04:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.14.2020 04:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.14.2020 04:24	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.14.2020 04:24	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.14.2020 04:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.14.2020 04:24	
o-Terphenyl	84-15-1	108	%	70-135	04.14.2020 04:24	



Certificate of Analytical Results 658613

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS82**
 Lab Sample Id: 658613-008

Matrix: Soil
 Date Collected: 04.09.2020 10:30

Date Received: 04.10.2020 14:52
 Sample Depth: 5.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.13.2020 09:32

Basis: Wet Weight

Seq Number: 3122893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 18:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 18:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 18:30	
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.13.2020 18:30	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

MB Sample Id: 7701110-1-BLK

Matrix: Solid

LCS Sample Id: 7701110-1-BKS

Prep Method: E300P

Date Prep: 04.11.2020

LCSD Sample Id: 7701110-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	262	105	90-110	2	20	mg/kg	04.11.2020 14:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3122776

MB Sample Id: 7701112-1-BLK

Matrix: Solid

LCS Sample Id: 7701112-1-BKS

Prep Method: E300P

Date Prep: 04.11.2020

LCSD Sample Id: 7701112-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	262	105	90-110	0	20	mg/kg	04.11.2020 17:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

Parent Sample Id: 658610-016

Matrix: Soil

MS Sample Id: 658610-016 S

Prep Method: E300P

Date Prep: 04.11.2020

MSD Sample Id: 658610-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1420	200	1620	100	1630	105	90-110	1	20	mg/kg	04.11.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3122773

Parent Sample Id: 658616-061

Matrix: Soil

MS Sample Id: 658616-061 S

Prep Method: E300P

Date Prep: 04.11.2020

MSD Sample Id: 658616-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	64.7	199	274	105	272	104	90-110	1	20	mg/kg	04.11.2020 14:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3122776

Parent Sample Id: 658613-004

Matrix: Soil

MS Sample Id: 658613-004 S

Prep Method: E300P

Date Prep: 04.11.2020

MSD Sample Id: 658613-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	64.1	200	275	105	273	104	90-110	1	20	mg/kg	04.11.2020 17:47	

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122924

MB Sample Id: 7701140-1-BLK

Matrix: Solid

LCS Sample Id: 7701140-1-BKS

Prep Method: SW8015P

Date Prep: 04.10.2020

LCSD Sample Id: 7701140-1-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	967	97	963	96	70-135	0	35	mg/kg	04.13.2020 15:37	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1080	108	70-135	1	35	mg/kg	04.13.2020 15:37	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1-Chlorooctane	103		119		105		70-135			%	04.13.2020 15:37	
o-Terphenyl	111		98		99		70-135			%	04.13.2020 15:37	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122934

MB Sample Id: 7701154-1-BLK

Matrix: Solid

LCS Sample Id: 7701154-1-BKS

Prep Method: SW8015P

Date Prep: 04.13.2020

LCSD Sample Id: 7701154-1-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	1020	102	70-135	4	35	mg/kg	04.14.2020 02:24	
Diesel Range Organics (DRO)	<50.0	1000	1240	124	1180	118	70-135	5	35	mg/kg	04.14.2020 02:24	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1-Chlorooctane	108		133		129		70-135			%	04.14.2020 02:24	
o-Terphenyl	115		112		109		70-135			%	04.14.2020 02:24	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122924

Matrix: Solid

MB Sample Id: 7701140-1-BLK

Prep Method: SW8015P

Date Prep: 04.10.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.13.2020 15:16	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122934

Matrix: Solid

MB Sample Id: 7701154-1-BLK

Prep Method: SW8015P

Date Prep: 04.13.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.14.2020 02:03	

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122924

Parent Sample Id: 658616-051

Matrix: Soil

MS Sample Id: 658616-051 S

Prep Method: SW8015P

Date Prep: 04.10.2020

MSD Sample Id: 658616-051 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	995	832	84	914	91	70-135	9	35	mg/kg	04.13.2020 16:39	
Diesel Range Organics (DRO)	<49.8	995	774	78	855	86	70-135	10	35	mg/kg	04.13.2020 16:39	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		111		70-135	%	04.13.2020 16:39
o-Terphenyl	101		109		70-135	%	04.13.2020 16:39

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122934

Parent Sample Id: 658613-006

Matrix: Soil

MS Sample Id: 658613-006 S

Prep Method: SW8015P

Date Prep: 04.13.2020

MSD Sample Id: 658613-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	1010	102	70-135	1	35	mg/kg	04.14.2020 03:24	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1160	117	70-135	2	35	mg/kg	04.14.2020 03:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		116		70-135	%	04.14.2020 03:24
o-Terphenyl	114		112		70-135	%	04.14.2020 03:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122893

MB Sample Id: 7701120-1-BLK

Matrix: Solid

LCS Sample Id: 7701120-1-BKS

Prep Method: SW5030B

Date Prep: 04.13.2020

LCSD Sample Id: 7701120-1-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	0.105	105	0.109	109	70-130	4	35	mg/kg	04.13.2020 10:21	
Toluene	<0.00200	0.100	0.101	101	0.105	105	70-130	4	35	mg/kg	04.13.2020 10:21	
Ethylbenzene	<0.00200	0.100	0.0959	96	0.0998	100	71-129	4	35	mg/kg	04.13.2020 10:21	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.207	104	70-135	3	35	mg/kg	04.13.2020 10:21	
o-Xylene	<0.00200	0.100	0.100	100	0.104	104	71-133	4	35	mg/kg	04.13.2020 10:21	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		104		70-130	%	04.13.2020 10:21
4-Bromofluorobenzene	97		91		92		70-130	%	04.13.2020 10:21

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122893

Parent Sample Id: 658613-001

Matrix: Soil

MS Sample Id: 658613-001 S

Prep Method: SW5030B

Date Prep: 04.13.2020

MSD Sample Id: 658613-001 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	0.109	109	0.0899	89	70-130	19	35	mg/kg	04.13.2020 11:01	
Toluene	<0.00200	0.0998	0.105	105	0.0857	85	70-130	20	35	mg/kg	04.13.2020 11:01	
Ethylbenzene	<0.00200	0.0998	0.0970	97	0.0770	76	71-129	23	35	mg/kg	04.13.2020 11:01	
m,p-Xylenes	<0.00399	0.200	0.201	101	0.157	78	70-135	25	35	mg/kg	04.13.2020 11:01	
o-Xylene	<0.00200	0.0998	0.101	101	0.0795	79	71-133	24	35	mg/kg	04.13.2020 11:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	04.13.2020 11:01
4-Bromofluorobenzene	97		93		70-130	%	04.13.2020 11:01

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

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

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

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



Chain of Custody

Work Order No: 658613

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 Cashtad, 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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Page 1 of 1

Project Manager:	Chris McKisson	Bill to: (if different)	→
Company Name:	LT Environmental	Company Name:	→
Address:	820 Megan Ave, Unit B	Address:	→
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	→
Phone:	970 285 9985	Email:	cmckisson@ltenv.com

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

Project Name:	LVP Gathering System	Turn Around	☒
Project Number:	102120001	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	1.8	Thermometer ID	T-NX-007		
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	8		
Sample Custody Seals:	Yes ☒ No ☐				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
3W01		S	4/9/20	1205	0.5-6'	1	TPH (EPA 8015)	MeOH: Me
3W14		S		1110	0.5-6'	1	BTEX (EPA 8021)	None: NO
3W16		S		1125	0.5-6'	1	Chloride (EPA 8060)	HNO3: HN
3W18		S		1230	0.5-6'	1		H2SO4: H2
3W21		S		1255	0.5-6'	1		HCL: HL
FS39		S		0950	5.5-6'	1		NaOH: Na
FS80		S		0958	5.5-6'	1		Zn Acetate+ NaOH: Zn
FS82		S		1030	5.5-6'	1		

Total 200.7 / 6010 200.8 / 6020:

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

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

1631 / 245.1 / 7470 / 7471 : Hg

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
Anna Byers	Chris McKisson	4/10/20 1452			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.10.2020 02:52.00 PM

Work Order #: 658613

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

* 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: 04.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.13.2020



Analytical Report 658962

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.20.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.20.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **658962**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 658962. 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. 658962 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 658962****LT Environmental, Inc., Arvada, CO**

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW17	S	04.14.2020 08:30	0.5 - 7 ft	658962-001
SW09	S	04.14.2020 09:00	0.5 - 7 ft	658962-002
FS81	S	04.14.2020 09:10	6 - 7 ft	658962-003
FS84	S	04.14.2020 14:05	6 ft	658962-004
SW19	S	04.14.2020 16:10	0.5 - 10 ft	658962-005
FS83	S	04.14.2020 15:30	8 - 10 ft	658962-006
SW10	S	04.14.2020 16:05	0.5 - 10 ft	658962-007
FS85	S	04.15.2020 09:27	7 - 9 ft	658962-008
FS86	S	04.15.2020 10:27	6 - 8 ft	658962-009
SW20	S	04.15.2020 10:05	0.5 - 9 ft	658962-010
SW11	S	04.15.2020 09:30	0.5 - 9 ft	658962-011
SW12	S	04.15.2020 10:30	0.5 - 8 ft	658962-012
SW22	S	04.15.2020 10:25	0.5 - 8 ft	658962-013



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 658962

Report Date: 04.20.2020
Date Received: 04.15.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3123297 BTEX by EPA 8021B

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

Batch: LBA-3123367 BTEX by EPA 8021B

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



Certificate of Analysis Summary 658962

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.15.2020 16:58
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	658962-001	658962-002	658962-003	658962-004	658962-005	658962-006
	<i>Field Id:</i>	SW17	SW09	FS81	FS84	SW19	FS83
	<i>Depth:</i>	0.5-7 ft	0.5-7 ft	6-7 ft	6- ft	0.5-10 ft	8-10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.14.2020 08:30	04.14.2020 09:00	04.14.2020 09:10	04.14.2020 14:05	04.14.2020 16:10	04.14.2020 15:30
BTEX by EPA 8021B	<i>Extracted:</i>	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 07:22
	<i>Analyzed:</i>	04.16.2020 14:26	04.16.2020 14:46	04.16.2020 15:06	04.16.2020 15:27	04.16.2020 15:47	04.16.2020 16:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00404 0.00404	<0.0208 0.0208	<0.00398 0.00398	<0.00397 0.00397	<0.00400 0.00400	<0.00400 0.00400
o-Xylene		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Xylenes, Total		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.0104 0.0104	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18
	<i>Analyzed:</i>	04.16.2020 09:49	04.16.2020 09:55	04.16.2020 10:00	04.16.2020 10:17	04.16.2020 10:22	04.16.2020 10:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12.1 9.98	<9.98 9.98	14.9 9.92	<9.94 9.94	102 10.0	15.3 10.1
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00
	<i>Analyzed:</i>	04.16.2020 14:08	04.16.2020 14:29	04.16.2020 14:49	04.16.2020 15:10	04.16.2020 15:30	04.16.2020 15:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.2 50.2	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.1 50.1
Diesel Range Organics (DRO)		<49.9 49.9	<50.2 50.2	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.2 50.2	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.1 50.1
Total GRO-DRO		<49.9 49.9	<50.2 50.2	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.1 50.1
Total TPH		<49.9 49.9	<50.2 50.2	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.1 50.1

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 658962

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.15.2020 16:58
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	658962-007	658962-008	658962-009	658962-010	658962-011	658962-012
	<i>Field Id:</i>	SW10	FS85	FS86	SW20	SW11	SW12
	<i>Depth:</i>	0.5-10 ft	7-9 ft	6-8 ft	0.5-9 ft	0.5-9 ft	0.5-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.14.2020 16:05	04.15.2020 09:27	04.15.2020 10:27	04.15.2020 10:05	04.15.2020 09:30	04.15.2020 10:30
BTEX by EPA 8021B	<i>Extracted:</i>	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 07:22	04.16.2020 17:57	04.16.2020 07:22	04.16.2020 07:22
	<i>Analyzed:</i>	04.16.2020 16:28	04.16.2020 16:48	04.16.2020 17:50	04.17.2020 16:58	04.16.2020 18:10	04.16.2020 18:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402	<0.00401 0.00401	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
Xylenes, Total		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18	04.16.2020 07:18
	<i>Analyzed:</i>	04.16.2020 10:33	04.16.2020 10:39	04.16.2020 10:44	04.16.2020 11:00	04.16.2020 11:06	04.16.2020 11:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		59.9 9.92	116 9.94	<9.96 9.96	24.3 9.98	178 9.92	582 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00	04.16.2020 12:00
	<i>Analyzed:</i>	04.16.2020 16:11	04.16.2020 16:31	04.16.2020 16:52	04.16.2020 17:33	04.16.2020 18:55	04.16.2020 19:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.2 50.2	<50.3 50.3
Diesel Range Organics (DRO)		<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.2 50.2	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.2 50.2	<50.3 50.3
Total GRO-DRO		<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.2 50.2	<50.3 50.3
Total TPH		<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.2 50.2	<50.3 50.3

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 658962

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Wed 04.15.2020 16:58
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 658962-013 Field Id: SW22 Depth: 0.5-8 ft Matrix: SOIL Sampled: 04.15.2020 10:25					
BTEX by EPA 8021B	Extracted: 04.16.2020 07:22 Analyzed: 04.16.2020 18:51 Units/RL: mg/kg RL					
Benzene	<0.00200 0.00200					
Toluene	<0.00200 0.00200					
Ethylbenzene	<0.00200 0.00200					
m,p-Xylenes	<0.00401 0.00401					
o-Xylene	<0.00200 0.00200					
Xylenes, Total	<0.00200 0.00200					
Total BTEX	<0.00200 0.00200					
Chloride by EPA 300	Extracted: 04.16.2020 07:18 Analyzed: 04.16.2020 11:28 Units/RL: mg/kg RL					
Chloride	12.4 9.98					
TPH by SW8015 Mod	Extracted: 04.16.2020 12:00 Analyzed: 04.16.2020 19:36 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.0 50.0					
Diesel Range Organics (DRO)	<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0					
Total GRO-DRO	<50.0 50.0					
Total TPH	<50.0 50.0					

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Jessica Kramer
Project Manager



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW17**
Lab Sample Id: 658962-001

Matrix: Soil
Date Collected: 04.14.2020 08:30

Date Received: 04.15.2020 16:58
Sample Depth: 0.5 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123309

Date Prep: 04.16.2020 07:18

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.1	9.98	mg/kg	04.16.2020 09:49		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123293

Date Prep: 04.16.2020 12:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.16.2020 14:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.16.2020 14:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.16.2020 14:08	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.16.2020 14:08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.16.2020 14:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 14:08	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 14:08	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW17**
 Lab Sample Id: 658962-001

Matrix: Soil
 Date Collected: 04.14.2020 08:30

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.16.2020 14:26	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.16.2020 14:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.16.2020 14:26	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.16.2020 14:26	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW09** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-002 Date Collected: 04.14.2020 09:00 Sample Depth: 0.5 - 7 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	04.16.2020 09:55	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.16.2020 14:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.16.2020 14:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.16.2020 14:29	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.16.2020 14:29	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.16.2020 14:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 14:29	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 14:29	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW09**
 Lab Sample Id: 658962-002

Matrix: Soil
 Date Collected: 04.14.2020 09:00

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1
Toluene	108-88-3	<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1
Ethylbenzene	100-41-4	<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1
m,p-Xylenes	179601-23-1	<0.0208	0.0208	mg/kg	04.16.2020 14:46	U	1
o-Xylene	95-47-6	<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1
Xylenes, Total	1330-20-7	<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1
Total BTEX		<0.0104	0.0104	mg/kg	04.16.2020 14:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.16.2020 14:46	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.16.2020 14:46	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS81** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-003 Date Collected: 04.14.2020 09:10 Sample Depth: 6 - 7 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	9.92	mg/kg	04.16.2020 10:00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.16.2020 14:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.16.2020 14:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.16.2020 14:49	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.16.2020 14:49	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.16.2020 14:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.16.2020 14:49	
o-Terphenyl	84-15-1	106	%	70-135	04.16.2020 14:49	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS81**
 Lab Sample Id: 658962-003

Matrix: Soil
 Date Collected: 04.14.2020 09:10

Date Received: 04.15.2020 16:58
 Sample Depth: 6 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.16.2020 15:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.16.2020 15:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.16.2020 15:06	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.16.2020 15:06	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS84** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-004 Date Collected: 04.14.2020 14:05 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	04.16.2020 10:17	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.16.2020 15:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.16.2020 15:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.16.2020 15:10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.16.2020 15:10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.16.2020 15:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.16.2020 15:10	
o-Terphenyl	84-15-1	102	%	70-135	04.16.2020 15:10	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS84**
 Lab Sample Id: 658962-004

Matrix: Soil
 Date Collected: 04.14.2020 14:05

Date Received: 04.15.2020 16:58
 Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.16.2020 15:27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.16.2020 15:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.16.2020 15:27	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.2020 15:27	



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LVP Gathering System

Sample Id: **SW19** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-005 Date Collected: 04.14.2020 16:10 Sample Depth: 0.5 - 10 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	102	10.0	mg/kg	04.16.2020 10:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 15:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 15:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 15:30	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 15:30	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 15:30	
o-Terphenyl	84-15-1	104	%	70-135	04.16.2020 15:30	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW19**
 Lab Sample Id: 658962-005

Matrix: Soil
 Date Collected: 04.14.2020 16:10

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.16.2020 15:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.2020 15:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.16.2020 15:47	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.2020 15:47	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS83** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-006 Date Collected: 04.14.2020 15:30 Sample Depth: 8 - 10 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.3	10.1	mg/kg	04.16.2020 10:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 15:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 15:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 15:50	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 15:50	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 15:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.16.2020 15:50	
o-Terphenyl	84-15-1	106	%	70-135	04.16.2020 15:50	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS83**
 Lab Sample Id: 658962-006

Matrix: Soil
 Date Collected: 04.14.2020 15:30

Date Received: 04.15.2020 16:58
 Sample Depth: 8 - 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.16.2020 16:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.2020 16:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.2020 16:08	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.16.2020 16:08	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW10** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-007 Date Collected: 04.14.2020 16:05 Sample Depth: 0.5 - 10 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.9	9.92	mg/kg	04.16.2020 10:33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 16:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 16:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 16:11	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 16:11	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 16:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.16.2020 16:11	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 16:11	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW10**
 Lab Sample Id: 658962-007

Matrix: Soil
 Date Collected: 04.14.2020 16:05

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123297

Prep Method: SW5030B

% Moisture:

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.16.2020 16:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.16.2020 16:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.16.2020 16:28		
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.16.2020 16:28		



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LVP Gathering System

Sample Id: **FS85** Matrix: **Soil** Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-008 Date Collected: 04.15.2020 09:27 Sample Depth: 7 - 9 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 04.16.2020 07:18 Basis: **Wet Weight**
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	116	9.94	mg/kg	04.16.2020 10:39		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 04.16.2020 12:00 Basis: **Wet Weight**
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 16:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 16:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 16:31	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 16:31	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 16:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.16.2020 16:31	
o-Terphenyl	84-15-1	104	%	70-135	04.16.2020 16:31	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS85**
 Lab Sample Id: 658962-008

Matrix: Soil
 Date Collected: 04.15.2020 09:27

Date Received: 04.15.2020 16:58
 Sample Depth: 7 - 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.16.2020 16:48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.16.2020 16:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.16.2020 16:48	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.2020 16:48	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS86** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-009 Date Collected: 04.15.2020 10:27 Sample Depth: 6 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	04.16.2020 10:44	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.16.2020 16:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.16.2020 16:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.16.2020 16:52	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.16.2020 16:52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.16.2020 16:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.16.2020 16:52	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 16:52	



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LVP Gathering System

Sample Id: **FS86**
 Lab Sample Id: 658962-009

Matrix: Soil
 Date Collected: 04.15.2020 10:27

Date Received: 04.15.2020 16:58
 Sample Depth: 6 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.16.2020 17:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.16.2020 17:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.16.2020 17:50	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.16.2020 17:50	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW20**
Lab Sample Id: 658962-010

Matrix: Soil
Date Collected: 04.15.2020 10:05

Date Received: 04.15.2020 16:58
Sample Depth: 0.5 - 9 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123309

Date Prep: 04.16.2020 07:18

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.3	9.98	mg/kg	04.16.2020 11:00		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123293

Date Prep: 04.16.2020 12:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.16.2020 17:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.16.2020 17:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.16.2020 17:33	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.16.2020 17:33	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.16.2020 17:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.16.2020 17:33	
o-Terphenyl	84-15-1	102	%	70-135	04.16.2020 17:33	



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LVP Gathering System

Sample Id: **SW20**
 Lab Sample Id: 658962-010

Matrix: Soil
 Date Collected: 04.15.2020 10:05

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 9 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123367

Prep Method: SW5030B

% Moisture:

Date Prep: 04.16.2020 17:57

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.17.2020 16:58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.17.2020 16:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.17.2020 16:58	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.17.2020 16:58	



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LVP Gathering System

Sample Id: **SW11** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-011 Date Collected: 04.15.2020 09:30 Sample Depth: 0.5 - 9 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	178	9.92	mg/kg	04.16.2020 11:06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.16.2020 18:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.16.2020 18:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.16.2020 18:55	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.16.2020 18:55	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.16.2020 18:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.16.2020 18:55	
o-Terphenyl	84-15-1	109	%	70-135	04.16.2020 18:55	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW11**
 Lab Sample Id: 658962-011

Matrix: Soil
 Date Collected: 04.15.2020 09:30

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.16.2020 18:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.2020 18:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.16.2020 18:10	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.16.2020 18:10	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW12** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-012 Date Collected: 04.15.2020 10:30 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	582	9.96	mg/kg	04.16.2020 11:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.16.2020 19:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.16.2020 19:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.16.2020 19:16	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.16.2020 19:16	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.16.2020 19:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 19:16	
o-Terphenyl	84-15-1	106	%	70-135	04.16.2020 19:16	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW12**
 Lab Sample Id: 658962-012

Matrix: Soil
 Date Collected: 04.15.2020 10:30

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.16.2020 18:30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.16.2020 18:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.16.2020 18:30		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.16.2020 18:30		



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW22** Matrix: Soil Date Received: 04.15.2020 16:58
 Lab Sample Id: 658962-013 Date Collected: 04.15.2020 10:25 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.16.2020 07:18 Basis: Wet Weight
 Seq Number: 3123309

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.98	mg/kg	04.16.2020 11:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 12:00 Basis: Wet Weight
 Seq Number: 3123293

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.16.2020 19:36	
o-Terphenyl	84-15-1	109	%	70-135	04.16.2020 19:36	



Certificate of Analytical Results 658962

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW22**
 Lab Sample Id: 658962-013

Matrix: Soil
 Date Collected: 04.15.2020 10:25

Date Received: 04.15.2020 16:58
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.16.2020 07:22

Basis: Wet Weight

Seq Number: 3123297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.16.2020 18:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.16.2020 18:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.16.2020 18:51	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.16.2020 18:51	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3123309

MB Sample Id: 7701377-1-BLK

Matrix: Solid

LCS Sample Id: 7701377-1-BKS

Prep Method: E300P

Date Prep: 04.16.2020

LCSD Sample Id: 7701377-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	255	102	90-110	0	20	mg/kg	04.16.2020 09:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3123309

Parent Sample Id: 658843-001

Matrix: Soil

MS Sample Id: 658843-001 S

Prep Method: E300P

Date Prep: 04.16.2020

MSD Sample Id: 658843-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	863	399	1270	102	1270	102	90-110	0	20	mg/kg	04.16.2020 09:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3123309

Parent Sample Id: 658962-009

Matrix: Soil

MS Sample Id: 658962-009 S

Prep Method: E300P

Date Prep: 04.16.2020

MSD Sample Id: 658962-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	399	407	102	413	104	90-110	1	20	mg/kg	04.16.2020 10:50	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123293

MB Sample Id: 7701402-1-BLK

Matrix: Solid

LCS Sample Id: 7701402-1-BKS

Prep Method: SW8015P

Date Prep: 04.16.2020

LCSD Sample Id: 7701402-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	974	97	940	94	70-135	4	35	mg/kg	04.16.2020 12:05	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1060	106	70-135	5	35	mg/kg	04.16.2020 12:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		108		107		70-135	%	04.16.2020 12:05
o-Terphenyl	96		108		120		70-135	%	04.16.2020 12:05

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123293

Matrix: Solid

MB Sample Id: 7701402-1-BLK

Prep Method: SW8015P

Date Prep: 04.16.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.16.2020 11:45	

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123293

Parent Sample Id: 658990-008

Matrix: Soil

MS Sample Id: 658990-008 S

Prep Method: SW8015P

Date Prep: 04.16.2020

MSD Sample Id: 658990-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	973	97	1040	104	70-135	7	35	mg/kg	04.16.2020 13:28	
Diesel Range Organics (DRO)	<50.0	1000	1130	113	1130	113	70-135	0	35	mg/kg	04.16.2020 13:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		119		70-135	%	04.16.2020 13:28
o-Terphenyl	112		118		70-135	%	04.16.2020 13:28

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123297

MB Sample Id: 7701378-1-BLK

Matrix: Solid

LCS Sample Id: 7701378-1-BKS

Prep Method: SW5030B

Date Prep: 04.16.2020

LCSD Sample Id: 7701378-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.113	113	70-130	5	35	mg/kg	04.16.2020 12:03	
Toluene	<0.00200	0.100	0.103	103	0.108	108	70-130	5	35	mg/kg	04.16.2020 12:03	
Ethylbenzene	<0.00200	0.100	0.0968	97	0.100	100	71-129	3	35	mg/kg	04.16.2020 12:03	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.206	103	70-135	3	35	mg/kg	04.16.2020 12:03	
o-Xylene	<0.00200	0.100	0.102	102	0.105	105	71-133	3	35	mg/kg	04.16.2020 12:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		105		70-130	%	04.16.2020 12:03
4-Bromofluorobenzene	95		96		92		70-130	%	04.16.2020 12:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123367

MB Sample Id: 7701468-1-BLK

Matrix: Solid

LCS Sample Id: 7701468-1-BKS

Prep Method: SW5030B

Date Prep: 04.16.2020

LCSD Sample Id: 7701468-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.107	107	70-130	3	35	mg/kg	04.17.2020 08:07	
Toluene	<0.00200	0.100	0.104	104	0.101	101	70-130	3	35	mg/kg	04.17.2020 08:07	
Ethylbenzene	<0.00200	0.100	0.0967	97	0.0939	94	71-129	3	35	mg/kg	04.17.2020 08:07	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.192	96	70-135	4	35	mg/kg	04.17.2020 08:07	
o-Xylene	<0.00200	0.100	0.102	102	0.0990	99	71-133	3	35	mg/kg	04.17.2020 08:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		104		70-130	%	04.17.2020 08:07
4-Bromofluorobenzene	96		94		90		70-130	%	04.17.2020 08:07

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123297

Parent Sample Id: 658843-001

Matrix: Soil

MS Sample Id: 658843-001 S

Prep Method: SW5030B

Date Prep: 04.16.2020

MSD Sample Id: 658843-001 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	0.106	106	0.0807	81	70-130	27	35	mg/kg	04.16.2020 12:44	
Toluene	<0.00200	0.0998	0.102	102	0.0796	80	70-130	25	35	mg/kg	04.16.2020 12:44	
Ethylbenzene	<0.00200	0.0998	0.0957	96	0.0764	77	71-129	22	35	mg/kg	04.16.2020 12:44	
m,p-Xylenes	<0.00399	0.200	0.197	99	0.160	80	70-135	21	35	mg/kg	04.16.2020 12:44	
o-Xylene	<0.00200	0.0998	0.100	100	0.0838	84	71-133	18	35	mg/kg	04.16.2020 12:44	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	04.16.2020 12:44
4-Bromofluorobenzene	96		96		70-130	%	04.16.2020 12:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123367

Parent Sample Id: 659115-020

Matrix: Soil

MS Sample Id: 659115-020 S

Prep Method: SW5030B

Date Prep: 04.16.2020

MSD Sample Id: 659115-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0834	83	0.0833	83	70-130	0	35	mg/kg	04.17.2020 09:28	
Toluene	<0.00201	0.100	0.0791	79	0.0780	78	70-130	1	35	mg/kg	04.17.2020 09:28	
Ethylbenzene	<0.00201	0.100	0.0729	73	0.0722	72	71-129	1	35	mg/kg	04.17.2020 09:28	
m,p-Xylenes	<0.00402	0.201	0.149	74	0.147	74	70-135	1	35	mg/kg	04.17.2020 09:28	
o-Xylene	<0.00201	0.100	0.0757	76	0.0743	74	71-133	2	35	mg/kg	04.17.2020 09:28	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	04.17.2020 09:28
4-Bromofluorobenzene	96		94		70-130	%	04.17.2020 09:28

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

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

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

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



Chain of Custody

Work Order No: 16589102

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 889-6701

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Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Megan Ave Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckisson@ltenv.com

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

Project Name:	LVP Gathering System	Turn Around	
Project Number:	102220001	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
Temperature (°C):	0.8	Thermometer ID	TMM007		
Received intact:	Yes ☒ No ☐	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	13		
Sample Custody Seals:	Yes ☐ No ☒ N/A				

PM

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Numl	TP	BE	Ch											Sample Comments
	SW17	S	4/14/20	0830	0.5-7'	1	X	X	X											
	SW09	S	4/14/20	0900	0.5-7'	1	X	X	X											
	FS81	S	4/14/20	0910	6-7	1	X	X	X											
	FS84	S	4/14/20	1405	6'	1	X	X	X											
	SW19	S	4/14/20	1610	0.5-10'	1	X	X	X											
	FS83	S	4/14/20	1530	8-10'	1	X	X	X											
	SW10	S	4/14/20	1605	0.5-10'	1	X	X	X											
	FS85	S	4/15/20	0927	7-9'	1	X	X	X											
	FS86	S		1027	6-8'	1	X	X	X											
	SW20	S	↑	1605	0.5-9'	1	X	X	X											

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

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
Anna Byers		4/15/20 16:58			4/15/20



Chain of Custody

Work Order No: 658962

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

Project Manager:	Chris McKisson	Bill to: (if different)	→
Company Name:	LT Environmental	Company Name:	→
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rose, CO 81650	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckisson@ltenv.com & abryes@ltenv.com

Work Order Comments

[illegible]

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

Number of Containers

4 (EPA 800)

EX (EPA 800)

oride (EPA 800)

NaOH: Na

Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, i received by 4:00pm

[illegible]

Total	200.7 / 6010	200.8 / 6020:
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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	SiO ₂	Na	Sr	II	Sn	U	V	Zn
CLP / SPLP 6010:	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	TI	U													
		1631 / 245.1 / 7470 / 7471 :Hg																												

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

of Xencro. A minimum change of \$75,000 will be applied to each project since a change of the nature of the work is required.					Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Clare Byers</i>	<i>[Signature]</i>	4/15/20 16:58			
2					
3					
4					
5					
6					

Revised Date 02/26/19 Rev. 2018

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.15.2020 04.58.00 PM

Work Order #: 658962

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 04.15.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.16.2020



Analytical Report 659086

for

LT Environmental, Inc.

Project Manager: Chris McKisson

LVP Gathering System

102720001

04.20.2020

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: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.20.2020

Project Manager: **Chris McKisson**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **659086**

LVP Gathering System

Project Address: Eddy County

Chris McKisson:

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) 659086. 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. 659086 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW13	S	04.15.2020 14:45	0.5 - 7 ft	659086-001
SW23	S	04.15.2020 14:52	0.5 - 8 ft	659086-002
SW24	S	04.15.2020 14:55	0.5 - 8 ft	659086-003
SW25	S	04.16.2020 08:50	0.5 - 8 ft	659086-004
SW26	S	04.15.2020 15:00	0.5 - 8 ft	659086-005
SW27	S	04.15.2020 11:50	0.5 - 6 ft	659086-006
SW28	S	04.15.2020 15:15	0.5 - 7 ft	659086-007
SW29	S	04.15.2020 15:12	0.5 - 8 ft	659086-008
SW30	S	04.15.2020 15:10	0.5 - 8 ft	659086-009
SW31	S	04.15.2020 15:05	0.5 - 8 ft	659086-010
SW32	S	04.15.2020 15:02	0.5 - 8 ft	659086-011
FS87	S	04.15.2020 15:18	7 - 8.5 ft	659086-012
FS89	S	04.15.2020 15:27	8 - 8.5 ft	659086-013
FS90	S	04.15.2020 15:30	7 - 8.5 ft	659086-014
FS91	S	04.15.2020 15:34	0.5 - 8.5 ft	659086-015
FS92	S	04.16.2020 11:47	7 - 8 ft	659086-016
FS93	S	04.16.2020 10:35	6 - 2 ft	659086-017
FS88	S	04.15.2020 15:24	8 - 8.5 ft	659086-018
SW33	S	04.16.2020 10:10	0.5 - 8 ft	659086-019
SW34	S	04.16.2020 13:45	0.5 - 8 ft	659086-020
SW35	S	04.16.2020 11:52	0.5 - 7 ft	659086-021
SW36	S	04.16.2020 10:52	0.5 - 8 ft	659086-022
SW37	S	04.16.2020 13:10	0.5 - 6 ft	659086-023
FS 94	S	04.16.2020 12:47	6 - 2 ft	659086-024



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *LVP Gathering System*

Project ID: 102720001
Work Order Number(s): 659086

Report Date: 04.20.2020
Date Received: 04.16.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3123436 BTEX by EPA 8021B

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

Batch: LBA-3123439 BTEX by EPA 8021B

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



Certificate of Analysis Summary 659086

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Thu 04.16.2020 14:56
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	659086-001	659086-002	659086-003	659086-004	659086-005	659086-006
	<i>Field Id:</i>	SW13	SW23	SW24	SW25	SW26	SW27
	<i>Depth:</i>	0.5-7 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	0.5-6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.15.2020 14:45	04.15.2020 14:52	04.15.2020 14:55	04.16.2020 08:50	04.15.2020 15:00	04.15.2020 11:50
BTEX by EPA 8021B	<i>Extracted:</i>	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31
	<i>Analyzed:</i>	04.18.2020 06:13	04.18.2020 06:34	04.18.2020 06:54	04.18.2020 07:14	04.18.2020 07:35	04.18.2020 07:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Xylenes, Total		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31
	<i>Analyzed:</i>	04.17.2020 11:06	04.17.2020 12:10	04.17.2020 12:15	04.17.2020 12:21	04.17.2020 12:26	04.17.2020 12:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		10.2 9.96	<9.92 9.92	33.0 10.0	48.5 9.96	11.5 9.92	26.0 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 16:30	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00
	<i>Analyzed:</i>	04.16.2020 21:38	04.16.2020 17:12	04.16.2020 19:16	04.16.2020 19:36	04.16.2020 19:56	04.16.2020 20:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.8 49.8
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.8 49.8
Total GRO-DRO		<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.8 49.8
Total TPH		<49.9 49.9	<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.8 49.8	<49.8 49.8

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 659086

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Thu 04.16.2020 14:56
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	659086-007	659086-008	659086-009	659086-010	659086-011	659086-012
	<i>Field Id:</i>	SW28	SW29	SW30	SW31	SW32	FS87
	<i>Depth:</i>	0.5-7 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	0.5-8 ft	7-8.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.15.2020 15:15	04.15.2020 15:12	04.15.2020 15:10	04.15.2020 15:05	04.15.2020 15:02	04.15.2020 15:18
BTEX by EPA 8021B	<i>Extracted:</i>	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31
	<i>Analyzed:</i>	04.18.2020 08:16	04.18.2020 08:36	04.18.2020 08:56	04.18.2020 09:17	04.18.2020 10:18	04.18.2020 10:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401	<0.00399 0.00399	<0.00399 0.00399	<0.00396 0.00396
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Xylenes, Total		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31
	<i>Analyzed:</i>	04.17.2020 12:48	04.17.2020 12:54	04.17.2020 12:59	04.17.2020 13:05	04.17.2020 13:11	04.17.2020 13:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.0 10.0	<10.0 10.0	<10.0 10.0	24.2 9.98	104 9.98	12.1 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00
	<i>Analyzed:</i>	04.16.2020 20:37	04.16.2020 20:58	04.16.2020 21:18	04.16.2020 21:38	04.16.2020 21:59	04.16.2020 22:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.0 50.0	<50.0 50.0

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

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 659086

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Thu 04.16.2020 14:56
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	659086-013	659086-014	659086-015	659086-016	659086-017	659086-018
	<i>Field Id:</i>	FS89	FS90	FS91	FS92	FS93	FS88
	<i>Depth:</i>	8-8.5 ft	7-8.5 ft	0.5-8.5 ft	7-8 ft	6-2 ft	8-8.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.15.2020 15:27	04.15.2020 15:30	04.15.2020 15:34	04.16.2020 11:47	04.16.2020 10:35	04.15.2020 15:24
BTEX by EPA 8021B	<i>Extracted:</i>	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 15:31
	<i>Analyzed:</i>	04.18.2020 10:59	04.18.2020 11:19	04.18.2020 11:40	04.18.2020 12:00	04.18.2020 12:21	04.18.2020 12:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00396 0.00396	<0.00402 0.00402	<0.00398 0.00398	<0.00397 0.00397	<0.00400 0.00400	<0.00399 0.00399
o-Xylene		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Xylenes, Total		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 07:31
	<i>Analyzed:</i>	04.17.2020 13:35	04.17.2020 13:53	04.17.2020 13:58	04.17.2020 14:04	04.17.2020 14:10	04.17.2020 14:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.98 9.98	<10.0 10.0	123 10.0	17.7 10.0	127 9.92	42.3 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00
	<i>Analyzed:</i>	04.16.2020 23:00	04.16.2020 23:20	04.16.2020 23:41	04.17.2020 00:01	04.17.2020 00:21	04.17.2020 00:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.9 49.9
Diesel Range Organics (DRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.9 49.9
Total GRO-DRO		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.9 49.9
Total TPH		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.9 49.9

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 659086

LT Environmental, Inc., Arvada, CO

Project Name: LVP Gathering System

Project Id: 102720001
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Thu 04.16.2020 14:56
Report Date: 04.20.2020 19:24
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	659086-019	659086-020	659086-021	659086-022	659086-023	659086-024
	<i>Field Id:</i>	SW33	SW34	SW35	SW36	SW37	FS 94
	<i>Depth:</i>	0.5-8 ft	0.5-8 ft	0.5-7 ft	0.5-8 ft	0.5-6 ft	6-2 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.16.2020 10:10	04.16.2020 13:45	04.16.2020 11:52	04.16.2020 10:52	04.16.2020 13:10	04.16.2020 12:47
BTEX by EPA 8021B	<i>Extracted:</i>	04.17.2020 15:31	04.17.2020 15:31	04.17.2020 17:42	04.17.2020 17:42	04.17.2020 17:42	04.17.2020 17:42
	<i>Analyzed:</i>	04.18.2020 13:01	04.18.2020 13:22	04.18.2020 16:26	04.18.2020 17:07	04.18.2020 17:27	04.18.2020 17:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00404 0.00404	<0.00402 0.00402	<0.00404 0.00404	<0.00400 0.00400	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Xylenes, Total		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	04.17.2020 07:31	04.17.2020 07:31	04.17.2020 10:35	04.17.2020 10:35	04.17.2020 10:35	04.17.2020 10:35
	<i>Analyzed:</i>	04.17.2020 14:22	04.17.2020 14:28	04.17.2020 15:04	04.17.2020 15:22	04.17.2020 15:27	04.17.2020 15:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		18.1 9.98	11.8 9.96	71.1 9.94	406 10.0	25.6 9.98	61.9 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:00	04.16.2020 17:40	04.16.2020 17:40	04.16.2020 17:40
	<i>Analyzed:</i>	04.17.2020 01:02	04.17.2020 01:22	04.17.2020 01:42	04.17.2020 00:01	04.17.2020 01:02	04.17.2020 01:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.0 50.0
Diesel Range Organics (DRO)		<50.3 50.3	<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.0 50.0
Total GRO-DRO		<50.3 50.3	<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.0 50.0
Total TPH		<50.3 50.3	<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.2 50.2	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW13**
Lab Sample Id: 659086-001

Matrix: Soil
Date Collected: 04.15.2020 14:45

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.2	9.96	mg/kg	04.17.2020 11:06		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123293

Date Prep: 04.16.2020 16:30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.16.2020 21:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.16.2020 21:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.16.2020 21:38	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.16.2020 21:38	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.16.2020 21:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.16.2020 21:38	
o-Terphenyl	84-15-1	116	%	70-135	04.16.2020 21:38	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW13**
 Lab Sample Id: 659086-001

Matrix: Soil
 Date Collected: 04.15.2020 14:45

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 06:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 06:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.18.2020 06:13	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 06:13	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW23**
Lab Sample Id: 659086-002

Matrix: Soil
Date Collected: 04.15.2020 14:52

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	04.17.2020 12:10	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 17:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 17:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 17:12	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 17:12	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 17:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	04.16.2020 17:12	
o-Terphenyl	84-15-1	112	%	70-135	04.16.2020 17:12	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW23**
 Lab Sample Id: 659086-002

Matrix: Soil
 Date Collected: 04.15.2020 14:52

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.18.2020 06:34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.18.2020 06:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 06:34		
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 06:34		



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW24**
Lab Sample Id: 659086-003

Matrix: Soil
Date Collected: 04.15.2020 14:55

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.0	10.0	mg/kg	04.17.2020 12:15		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 19:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 19:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 19:16	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 19:16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 19:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.16.2020 19:16	
o-Terphenyl	84-15-1	104	%	70-135	04.16.2020 19:16	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW24**
 Lab Sample Id: 659086-003

Matrix: Soil
 Date Collected: 04.15.2020 14:55

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.18.2020 06:54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.18.2020 06:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 06:54	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 06:54	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW25** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-004 Date Collected: 04.16.2020 08:50 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.5	9.96	mg/kg	04.17.2020 12:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.16.2020 19:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 19:36	
o-Terphenyl	84-15-1	102	%	70-135	04.16.2020 19:36	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW25**
 Lab Sample Id: 659086-004

Matrix: Soil
 Date Collected: 04.16.2020 08:50

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 07:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 07:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 07:14	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 07:14	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW26**
Lab Sample Id: 659086-005

Matrix: Soil
Date Collected: 04.15.2020 15:00

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.5	9.92	mg/kg	04.17.2020 12:26		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 19:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 19:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 19:56	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 19:56	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 19:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.16.2020 19:56	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 19:56	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW26**
 Lab Sample Id: 659086-005

Matrix: Soil
 Date Collected: 04.15.2020 15:00

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.18.2020 07:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.18.2020 07:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 07:35	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 07:35	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW27** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-006 Date Collected: 04.15.2020 11:50 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.0	9.98	mg/kg	04.17.2020 12:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 20:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 20:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 20:17	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 20:17	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 20:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.16.2020 20:17	
o-Terphenyl	84-15-1	98	%	70-135	04.16.2020 20:17	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW27**
 Lab Sample Id: 659086-006

Matrix: Soil
 Date Collected: 04.15.2020 11:50

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 07:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 07:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.18.2020 07:55	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 07:55	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW28**
Lab Sample Id: 659086-007

Matrix: Soil
Date Collected: 04.15.2020 15:15

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.17.2020 12:48	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 20:37	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 20:37	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 20:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.16.2020 20:37	
o-Terphenyl	84-15-1	103	%	70-135	04.16.2020 20:37	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW28**
 Lab Sample Id: 659086-007

Matrix: Soil
 Date Collected: 04.15.2020 15:15

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 08:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 08:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.18.2020 08:16		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 08:16		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW29** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-008 Date Collected: 04.15.2020 15:12 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.17.2020 12:54	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 20:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 20:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 20:58	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 20:58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 20:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.16.2020 20:58	
o-Terphenyl	84-15-1	112	%	70-135	04.16.2020 20:58	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW29**
 Lab Sample Id: 659086-008

Matrix: Soil
 Date Collected: 04.15.2020 15:12

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.18.2020 08:36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.18.2020 08:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 08:36		
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.18.2020 08:36		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW30**
Lab Sample Id: 659086-009

Matrix: Soil
Date Collected: 04.15.2020 15:10

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 04.17.2020 07:31

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.17.2020 12:59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 04.16.2020 17:00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 21:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 21:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 21:18	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 21:18	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 21:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.16.2020 21:18	
o-Terphenyl	84-15-1	109	%	70-135	04.16.2020 21:18	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW30**
 Lab Sample Id: 659086-009

Matrix: Soil
 Date Collected: 04.15.2020 15:10

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.18.2020 08:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 08:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	04.18.2020 08:56	
1,4-Difluorobenzene	540-36-3	95	%	70-130	04.18.2020 08:56	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW31**
Lab Sample Id: 659086-010

Matrix: Soil
Date Collected: 04.15.2020 15:05

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.2	9.98	mg/kg	04.17.2020 13:05		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.16.2020 21:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.16.2020 21:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.16.2020 21:38	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.16.2020 21:38	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.16.2020 21:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.16.2020 21:38	
o-Terphenyl	84-15-1	107	%	70-135	04.16.2020 21:38	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW31**
 Lab Sample Id: 659086-010

Matrix: Soil
 Date Collected: 04.15.2020 15:05

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 09:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 09:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 09:17		
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.18.2020 09:17		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW32**
Lab Sample Id: 659086-011

Matrix: Soil
Date Collected: 04.15.2020 15:02

Date Received: 04.16.2020 14:56
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3123444

Date Prep: 04.17.2020 07:31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	9.98	mg/kg	04.17.2020 13:11		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3123295

Date Prep: 04.16.2020 17:00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.16.2020 21:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.16.2020 21:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.16.2020 21:59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.16.2020 21:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.16.2020 21:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.16.2020 21:59	
o-Terphenyl	84-15-1	111	%	70-135	04.16.2020 21:59	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW32**
 Lab Sample Id: 659086-011

Matrix: Soil
 Date Collected: 04.15.2020 15:02

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 10:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 10:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.18.2020 10:18	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.18.2020 10:18	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS87** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-012 Date Collected: 04.15.2020 15:18 Sample Depth: 7 - 8.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.1	10.0	mg/kg	04.17.2020 13:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.16.2020 22:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.16.2020 22:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.16.2020 22:39	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.16.2020 22:39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.16.2020 22:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.16.2020 22:39	
o-Terphenyl	84-15-1	98	%	70-135	04.16.2020 22:39	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS87**
 Lab Sample Id: 659086-012

Matrix: Soil
 Date Collected: 04.15.2020 15:18

Date Received: 04.16.2020 14:56
 Sample Depth: 7 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.18.2020 10:38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.18.2020 10:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 10:38	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 10:38	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS89** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-013 Date Collected: 04.15.2020 15:27 Sample Depth: 8 - 8.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	04.17.2020 13:35	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.16.2020 23:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.16.2020 23:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.16.2020 23:00	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.16.2020 23:00	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.16.2020 23:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.16.2020 23:00	
o-Terphenyl	84-15-1	104	%	70-135	04.16.2020 23:00	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS89**
 Lab Sample Id: 659086-013

Matrix: Soil
 Date Collected: 04.15.2020 15:27

Date Received: 04.16.2020 14:56
 Sample Depth: 8 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.18.2020 10:59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.18.2020 10:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 10:59	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 10:59	



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LVP Gathering System

Sample Id: **FS90** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-014 Date Collected: 04.15.2020 15:30 Sample Depth: 7 - 8.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.17.2020 13:53	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.16.2020 23:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.16.2020 23:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.16.2020 23:20	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.16.2020 23:20	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.16.2020 23:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.16.2020 23:20	
o-Terphenyl	84-15-1	105	%	70-135	04.16.2020 23:20	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS90**
Lab Sample Id: 659086-014

Matrix: Soil
Date Collected: 04.15.2020 15:30

Date Received: 04.16.2020 14:56
Sample Depth: 7 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123436

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.18.2020 11:19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.18.2020 11:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 11:19	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 11:19	



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LVP Gathering System

Sample Id: **FS91** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-015 Date Collected: 04.15.2020 15:34 Sample Depth: 0.5 - 8.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	123	10.0	mg/kg	04.17.2020 13:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.16.2020 23:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.16.2020 23:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.16.2020 23:41	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.16.2020 23:41	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.16.2020 23:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.16.2020 23:41	
o-Terphenyl	84-15-1	106	%	70-135	04.16.2020 23:41	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS91**
 Lab Sample Id: 659086-015

Matrix: Soil
 Date Collected: 04.15.2020 15:34

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.18.2020 11:40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.18.2020 11:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.18.2020 11:40	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.18.2020 11:40	



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LVP Gathering System

Sample Id: **FS92** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-016 Date Collected: 04.16.2020 11:47 Sample Depth: 7 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.7	10.0	mg/kg	04.17.2020 14:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.17.2020 00:01	
o-Terphenyl	84-15-1	104	%	70-135	04.17.2020 00:01	



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS92**
 Lab Sample Id: 659086-016

Matrix: Soil
 Date Collected: 04.16.2020 11:47

Date Received: 04.16.2020 14:56
 Sample Depth: 7 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.18.2020 12:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.18.2020 12:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.18.2020 12:00	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 12:00	



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LVP Gathering System

Sample Id: **FS93** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-017 Date Collected: 04.16.2020 10:35 Sample Depth: 6 - 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	127	9.92	mg/kg	04.17.2020 14:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 00:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 00:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 00:21	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.17.2020 00:21	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.17.2020 00:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.17.2020 00:21	
o-Terphenyl	84-15-1	98	%	70-135	04.17.2020 00:21	



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LVP Gathering System

Sample Id: **FS93**
 Lab Sample Id: 659086-017

Matrix: Soil
 Date Collected: 04.16.2020 10:35

Date Received: 04.16.2020 14:56
 Sample Depth: 6 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.18.2020 12:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 12:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.18.2020 12:21	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.18.2020 12:21	



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LVP Gathering System

Sample Id: **FS88** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-018 Date Collected: 04.15.2020 15:24 Sample Depth: 8 - 8.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.3	9.92	mg/kg	04.17.2020 14:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.17.2020 00:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.17.2020 00:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.17.2020 00:42	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.17.2020 00:42	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.17.2020 00:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.17.2020 00:42	
o-Terphenyl	84-15-1	100	%	70-135	04.17.2020 00:42	



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LVP Gathering System

Sample Id: **FS88**
 Lab Sample Id: 659086-018

Matrix: Soil
 Date Collected: 04.15.2020 15:24

Date Received: 04.16.2020 14:56
 Sample Depth: 8 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 12:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 12:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.18.2020 12:41	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 12:41	



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LVP Gathering System

Sample Id: **SW33** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-019 Date Collected: 04.16.2020 10:10 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.1	9.98	mg/kg	04.17.2020 14:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.17.2020 01:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.17.2020 01:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.17.2020 01:02	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.17.2020 01:02	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.17.2020 01:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.17.2020 01:02	
o-Terphenyl	84-15-1	97	%	70-135	04.17.2020 01:02	



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LVP Gathering System

Sample Id: **SW33**
 Lab Sample Id: 659086-019

Matrix: Soil
 Date Collected: 04.16.2020 10:10

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 13:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 13:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 13:01		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 13:01		



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LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW34** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-020 Date Collected: 04.16.2020 13:45 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 07:31 Basis: Wet Weight
 Seq Number: 3123444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.8	9.96	mg/kg	04.17.2020 14:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.17.2020 01:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.17.2020 01:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.17.2020 01:22	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.17.2020 01:22	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.17.2020 01:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.17.2020 01:22	
o-Terphenyl	84-15-1	97	%	70-135	04.17.2020 01:22	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW34**
 Lab Sample Id: 659086-020

Matrix: Soil
 Date Collected: 04.16.2020 13:45

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 15:31

Basis: Wet Weight

Seq Number: 3123436

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.18.2020 13:22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 13:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 13:22	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.18.2020 13:22	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW35** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-021 Date Collected: 04.16.2020 11:52 Sample Depth: 0.5 - 7 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 10:35 Basis: Wet Weight
 Seq Number: 3123445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.1	9.94	mg/kg	04.17.2020 15:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:00 Basis: Wet Weight
 Seq Number: 3123295

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.17.2020 01:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.17.2020 01:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.17.2020 01:42	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.17.2020 01:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.17.2020 01:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.17.2020 01:42	
o-Terphenyl	84-15-1	98	%	70-135	04.17.2020 01:42	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW35**
 Lab Sample Id: 659086-021

Matrix: Soil
 Date Collected: 04.16.2020 11:52

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 17:42

Basis: Wet Weight

Seq Number: 3123439

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.18.2020 16:26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.18.2020 16:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 16:26	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 16:26	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW36** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-022 Date Collected: 04.16.2020 10:52 Sample Depth: 0.5 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 10:35 Basis: Wet Weight
 Seq Number: 3123445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	406	10.0	mg/kg	04.17.2020 15:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:40 Basis: Wet Weight
 Seq Number: 3123299

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.17.2020 00:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	04.17.2020 00:01	
o-Terphenyl	84-15-1	115	%	70-135	04.17.2020 00:01	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW36**
 Lab Sample Id: 659086-022

Matrix: Soil
 Date Collected: 04.16.2020 10:52

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 17:42

Basis: Wet Weight

Seq Number: 3123439

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.18.2020 17:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.18.2020 17:07	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 17:07	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW37** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-023 Date Collected: 04.16.2020 13:10 Sample Depth: 0.5 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 10:35 Basis: Wet Weight
 Seq Number: 3123445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.6	9.98	mg/kg	04.17.2020 15:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:40 Basis: Wet Weight
 Seq Number: 3123299

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.17.2020 01:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.17.2020 01:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.17.2020 01:02	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.17.2020 01:02	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.17.2020 01:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.17.2020 01:02	
o-Terphenyl	84-15-1	109	%	70-135	04.17.2020 01:02	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **SW37**
 Lab Sample Id: 659086-023

Matrix: Soil
 Date Collected: 04.16.2020 13:10

Date Received: 04.16.2020 14:56
 Sample Depth: 0.5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3123439

Prep Method: SW5030B

% Moisture:

Date Prep: 04.17.2020 17:42

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.18.2020 17:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 17:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 17:27	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.18.2020 17:27	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS 94** Matrix: Soil Date Received: 04.16.2020 14:56
 Lab Sample Id: 659086-024 Date Collected: 04.16.2020 12:47 Sample Depth: 6 - 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 04.17.2020 10:35 Basis: Wet Weight
 Seq Number: 3123445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.9	9.98	mg/kg	04.17.2020 15:33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 04.16.2020 17:40 Basis: Wet Weight
 Seq Number: 3123299

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.17.2020 01:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.17.2020 01:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.17.2020 01:22	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.17.2020 01:22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.17.2020 01:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.17.2020 01:22	
o-Terphenyl	84-15-1	107	%	70-135	04.17.2020 01:22	



Certificate of Analytical Results 659086

LT Environmental, Inc., Arvada, CO

LVP Gathering System

Sample Id: **FS 94**
 Lab Sample Id: 659086-024

Matrix: Soil
 Date Collected: 04.16.2020 12:47

Date Received: 04.16.2020 14:56
 Sample Depth: 6 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 04.17.2020 17:42

Basis: Wet Weight

Seq Number: 3123439

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.18.2020 17:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 17:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.18.2020 17:48		
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.18.2020 17:48		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: Chloride by EPA 300

Seq Number: 3123444

MB Sample Id: 7701479-1-BLK

Matrix: Solid

LCS Sample Id: 7701479-1-BKS

Prep Method: E300P

Date Prep: 04.17.2020

LCSD Sample Id: 7701479-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	264	106	263	105	90-110	0	20	mg/kg	04.17.2020 10:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3123445

MB Sample Id: 7701481-1-BLK

Matrix: Solid

LCS Sample Id: 7701481-1-BKS

Prep Method: E300P

Date Prep: 04.17.2020

LCSD Sample Id: 7701481-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	264	106	265	106	90-110	0	20	mg/kg	04.17.2020 14:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3123444

Parent Sample Id: 659086-001

Matrix: Soil

MS Sample Id: 659086-001 S

Prep Method: E300P

Date Prep: 04.17.2020

MSD Sample Id: 659086-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.2	199	214	102	216	103	90-110	1	20	mg/kg	04.17.2020 11:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3123444

Parent Sample Id: 659086-011

Matrix: Soil

MS Sample Id: 659086-011 S

Prep Method: E300P

Date Prep: 04.17.2020

MSD Sample Id: 659086-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	104	200	317	107	311	104	90-110	2	20	mg/kg	04.17.2020 13:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3123445

Parent Sample Id: 659086-021

Matrix: Soil

MS Sample Id: 659086-021 S

Prep Method: E300P

Date Prep: 04.17.2020

MSD Sample Id: 659086-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.1	199	286	108	286	108	90-110	0	20	mg/kg	04.17.2020 15:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3123445

Parent Sample Id: 659150-007

Matrix: Soil

MS Sample Id: 659150-007 S

Prep Method: E300P

Date Prep: 04.17.2020

MSD Sample Id: 659150-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.7	200	259	108	261	109	90-110	1	20	mg/kg	04.17.2020 16:36	

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

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

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

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



LT Environmental, Inc.

LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123293

MB Sample Id: 7701402-1-BLK

Matrix: Solid

LCS Sample Id: 7701402-1-BKS

Prep Method: SW8015P

Date Prep: 04.16.2020

LCSD Sample Id: 7701402-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	974	97	940	94	70-135	4	35	mg/kg	04.16.2020 12:05	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1060	106	70-135	5	35	mg/kg	04.16.2020 12:05	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	91		108		107		70-135	%	04.16.2020 12:05			
o-Terphenyl	96		108		120		70-135	%	04.16.2020 12:05			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123295

MB Sample Id: 7701460-1-BLK

Matrix: Solid

LCS Sample Id: 7701460-1-BKS

Prep Method: SW8015P

Date Prep: 04.16.2020

LCSD Sample Id: 7701460-1-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	885	89	915	92	70-135	3	35	mg/kg	04.16.2020 12:05	
Diesel Range Organics (DRO)	<50.0	1000	984	98	993	99	70-135	1	35	mg/kg	04.16.2020 12:05	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	82		100		116		70-135	%	04.16.2020 12:05			
o-Terphenyl	87		97		96		70-135	%	04.16.2020 12:05			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123299

MB Sample Id: 7701472-1-BLK

Matrix: Solid

LCS Sample Id: 7701472-1-BKS

Prep Method: SW8015P

Date Prep: 04.16.2020

LCSD Sample Id: 7701472-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	991	99	950	95	70-135	4	35	mg/kg	04.16.2020 23:20	
Diesel Range Organics (DRO)	<50.0	1000	1160	116	1110	111	70-135	4	35	mg/kg	04.16.2020 23:20	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	93		117		108		70-135	%	04.16.2020 23:20			
o-Terphenyl	101		114		108		70-135	%	04.16.2020 23:20			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123293

MB Sample Id: 7701402-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.16.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.16.2020 11:45	

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123295

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.16.2020

MB Sample Id: 7701460-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.16.2020 11:45

Flag**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3123295

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.16.2020

MB Sample Id: 7701472-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.16.2020 23:00

Flag**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3123293

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.16.2020

Parent Sample Id: 658990-008

MS Sample Id: 658990-008 S

MSD Sample Id: 658990-008 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<50.0

**Spike
Amount**

1000

**MS
Result**

973

**MS
%Rec**

97

**MSD
Result**

1040

**MSD
%Rec**

104

Limits

70-135

%RPD

7

**RPD
Limit**

35

Units

mg/kg

**Analysis
Date**

04.16.2020 13:28

Flag

Diesel Range Organics (DRO)

<50.0

1000

1130

113

1130

113

70-135

0

35

mg/kg

04.16.2020 13:28

Surrogate

1-Chlorooctane

**MS
%Rec**

115

**MS
Flag****MSD
%Rec**

119

**MSD
Flag****Limits**

70-135

Units

%

**Analysis
Date**

04.16.2020 13:28

o-Terphenyl

112

118

70-135

%

04.16.2020 13:28

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123295

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.16.2020

Parent Sample Id: 659086-002

MS Sample Id: 659086-002 S

MSD Sample Id: 659086-002 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<50.1

**Spike
Amount**

1000

**MS
Result**

1120

**MS
%Rec**

112

**MSD
Result**

1060

**MSD
%Rec**

105

Limits

70-135

%RPD

6

**RPD
Limit**

35

Units

mg/kg

**Analysis
Date**

04.16.2020 17:33

Flag

Diesel Range Organics (DRO)

<50.1

1000

1140

114

1060

105

70-135

7

35

mg/kg

04.16.2020 17:33

Surrogate

1-Chlorooctane

**MS
%Rec**

123

**MS
Flag****MSD
%Rec**

120

**MSD
Flag****Limits**

70-135

Units

%

**Analysis
Date**

04.16.2020 17:33

o-Terphenyl

123

117

70-135

%

04.16.2020 17:33

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: TPH by SW8015 Mod

Seq Number: 3123299

Parent Sample Id: 659086-022

Matrix: Soil

MS Sample Id: 659086-022 S

Prep Method: SW8015P

Date Prep: 04.16.2020

MSD Sample Id: 659086-022 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	1020	102	1010	101	70-135	1	35	mg/kg	04.17.2020 00:21	
Diesel Range Organics (DRO)	<50.0	999	1210	121	1180	118	70-135	3	35	mg/kg	04.17.2020 00:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		115		70-135	%	04.17.2020 00:21
o-Terphenyl	119		116		70-135	%	04.17.2020 00:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123436

MB Sample Id: 7701517-1-BLK

Matrix: Solid

LCS Sample Id: 7701517-1-BKS

Prep Method: SW5030B

Date Prep: 04.17.2020

LCSD Sample Id: 7701517-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.106	106	70-130	2	35	mg/kg	04.18.2020 04:31	
Toluene	<0.00200	0.100	0.101	101	0.0994	99	70-130	2	35	mg/kg	04.18.2020 04:31	
Ethylbenzene	<0.00200	0.100	0.0938	94	0.0923	92	71-129	2	35	mg/kg	04.18.2020 04:31	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.189	95	70-135	2	35	mg/kg	04.18.2020 04:31	
o-Xylene	<0.00200	0.100	0.0987	99	0.0973	97	71-133	1	35	mg/kg	04.18.2020 04:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.18.2020 04:31
4-Bromofluorobenzene	96		91		92		70-130	%	04.18.2020 04:31

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123439

MB Sample Id: 7701557-1-BLK

Matrix: Solid

LCS Sample Id: 7701557-1-BKS

Prep Method: SW5030B

Date Prep: 04.17.2020

LCSD Sample Id: 7701557-1-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	0.0996	100	0.108	108	70-130	8	35	mg/kg	04.18.2020 14:44	
Toluene	<0.00200	0.100	0.0943	94	0.101	101	70-130	7	35	mg/kg	04.18.2020 14:44	
Ethylbenzene	<0.00200	0.100	0.0875	88	0.0932	93	71-129	6	35	mg/kg	04.18.2020 14:44	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.190	95	70-135	7	35	mg/kg	04.18.2020 14:44	
o-Xylene	<0.00200	0.100	0.0917	92	0.0980	98	71-133	7	35	mg/kg	04.18.2020 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		105		70-130	%	04.18.2020 14:44
4-Bromofluorobenzene	95		94		92		70-130	%	04.18.2020 14:44

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

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

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

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



LT Environmental, Inc.
LVP Gathering System

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123436

Parent Sample Id: 659086-001

Matrix: Soil

MS Sample Id: 659086-001 S

Prep Method: SW5030B

Date Prep: 04.17.2020

MSD Sample Id: 659086-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.100	99	0.0913	90	70-130	9	35	mg/kg	04.18.2020 05:12	
Toluene	<0.00202	0.101	0.0915	91	0.0825	82	70-130	10	35	mg/kg	04.18.2020 05:12	
Ethylbenzene	<0.00202	0.101	0.0858	85	0.0755	75	71-129	13	35	mg/kg	04.18.2020 05:12	
m,p-Xylenes	<0.00403	0.202	0.175	87	0.152	76	70-135	14	35	mg/kg	04.18.2020 05:12	
o-Xylene	<0.00202	0.101	0.112	111	0.0881	87	71-133	24	35	mg/kg	04.18.2020 05:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		70-130	%	04.18.2020 05:12
4-Bromofluorobenzene	91		94		70-130	%	04.18.2020 05:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3123439

Parent Sample Id: 659086-021

Matrix: Soil

MS Sample Id: 659086-021 S

Prep Method: SW5030B

Date Prep: 04.17.2020

MSD Sample Id: 659086-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.0789	78	70-130	26	35	mg/kg	04.19.2020 05:01	
Toluene	<0.00200	0.100	0.0972	97	0.0972	96	70-130	0	35	mg/kg	04.19.2020 05:01	
Ethylbenzene	<0.00200	0.100	0.0898	90	0.0891	88	71-129	1	35	mg/kg	04.19.2020 05:01	
m,p-Xylenes	<0.00401	0.200	0.183	92	0.183	91	70-135	0	35	mg/kg	04.19.2020 05:01	
o-Xylene	<0.00200	0.100	0.0938	94	0.0723	72	71-133	26	35	mg/kg	04.19.2020 05:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		106		70-130	%	04.19.2020 05:01
4-Bromofluorobenzene	92		95		70-130	%	04.19.2020 05:01

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

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

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

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



Chain of Custody

Work Order No.:

659084

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 Crasabad, NM (432) 704-5440

Phoenix, AZ (480) 335-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Chris McKisson	Bill to: (if different)	
Company Name:	LT Environmental	Company Name:	
Address:	820 Meegan Ave, Unit B	Address:	
City, State ZIP:	River, CO 81650	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckisson@ltenv.com & abcyers@ltenv.com

Work Order Comments

Program : UST/PST ☐ PRP ☐ Brownfields ☐ RCC ☐ Superfund ☐

State of Project:

Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other:

[illegible]

SAMPLE RECEIPT			
Temp Blank:	Yes	No	Wet Ice:
Temp:	Yes	No	Thermometer ID
Temperature (°C):			
Receptacle Intact:	Yes	No	
Cooler Cus. Seals:	Yes	No	
Sample Cus. Seals:	Yes	No	
Total Containers:			

Number of Containers

(EPA 805)

(EPA 802)

vide (EPA 802)

HCL: HL

NaOH: Na

Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab

received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH	BTEX	Chlor	Sample Comments
SW13		S	4/15/00	1445	0.5-7'	1				
SW23				1452	0.5-8'	1				
SW24			↓	1455	0.5-8'	1				
SW25			4/16/00	0850	0.5-8'	1				
SW26			4/15/00	1500	0.5-8'	1				
SW27				1150	0.5-6.5'	1				
SW28				1515	0.5-7'	1				
SW29				1512	0.5-8'	1				
SW30				1510	0.5-8'	1				
SW31				1505	0.5-8'	1				

Total 20	7 / 6010	200.8 / 6020:	
Circle 17	Method(s) and Metal(s) to be analyzed		
8RCRA	13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCLP / SPLP 6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature 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 in charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	4/11/20 1454			



Work Order No: 659086

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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:

ANALYSIS REQUEST								Preservative Codes
Pres. Code								MeOH: Me
								None: NO
								HNO ₃ : HN
								H ₂ SO ₄ : 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	TPH	BTEX	Chlo	Sample Comments
SW32		S	4/15/20	1502	0.5-8'	1				
FS87				1518	7-8.5'	1				
FS89				1524	8-8.5'	1				
FS90				1530		1				
FS91			↓	1534	↓	1				
FS92			4/16/20	1147	7-8'	1				
FS93			4/16/20	1035	6-2'	1				
FS88			4/15/20	1524	8-8.5'	1				
SW33			4/16/20	1010	0.5-8'	1				
SW34		Y	4/16/20	1345	0.5-8'	1				

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn
TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		4/16/20 14:56			



Chain of Custody

Work Order No: 659080

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) 555-3443 Lubbock, TX (806) 794-1296 Crasabad, NM (432) 704-5440

Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 669-6100

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Page 3 of 3

Project Manager:	Chris McKisson	BH to: (if different)	→
Company Name:	LT Environmental	Company Name:	→
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	970 285 9985	Email:	cmckisson@ltenv.com & abayes@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:	LVP featuring 845pm		Turn Around
Project Number:	107420061	Routine	☒
Project Location	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TP	BTE	Chl	Sample Comments
	SW35	S	4/16/20	1152	0.5-7'	1	X	X	X	
	SW36	S	4/16/20	1025	0.5-8'	1	X	X	X	
	SW37	S		1310	0.5-6'	2	X	X	X	
	FS94	S		1247	6-2'	2	X	X	X	
	SW38	S	↓							

Total 200.7 / 010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Ni N Se Ag Ti V Zn
1631/245.1/7470 / 7471 : Hc

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 H U

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	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>Anna Byers</i>	<i>Deborah</i>	11/16/20 1456			
2						
3						
4						
5						

Printed Date 02/26/19 Rev. 2016

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.16.2020 02.56.00 PM

Work Order #: 659086

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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: 04.16.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.17.2020

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of release along lease road.



Photograph 2: View of release along right of way.



Photograph 3: View of release extent north of lease road.



Photograph 4: View of release at northern end of dry wash.



Photograph 5: View of vegetation along dry wash.



Photograph 6: View of vegetation along dry wash.

PHOTOGRAPHIC LOG



Photograph 7: View of northern excavation in the right of way facing East.



Photograph 8: View of northern excavation in right of way facing West.



Photograph 9: View of southern excavation in the right of way facing East.



Photograph 10: View of southern excavation in the right of way facing West.



Photograph 11: View of caliche layer at one foot facing west.



Photograph 12: View of excavation north of lease road facing west.

PHOTOGRAPHIC LOG



Photograph 13: View of floor sample location taken with hammer drill.



Photograph 14: View of excavation along lease road.



Photograph 15: View of southern end of excavation in dry wash



Photograph 16: View of excavation in dry wash.



Photograph 17: View of excavation in dry wash facing South.



Photograph 18: View of excavation in dry wash facing North.