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

June 4, 2020

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

RE: Remediation Work Plan and Variance Request
WPX Energy Permian, LLC.
Longview Federal 12-15H (2RP-5630 and 2RP-5647)
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, LLC. (WPX), is pleased to present the following Remediation Work Plan detailing soil sampling activities and proposed remediation at the Longview Federal 12-15H well pad (Site) located in Unit C, Section 12 Township 23 South, Range 28 East, Eddy County, New Mexico, as depicted on Figure 1. The purpose of the soil sampling activities was to investigate impacts to soil following two separate events that caused the release of produced water onto the caliche well pad and adjacent pasture. This Remediation Work Plan is meant to address the impacted soil identified during delineation sampling.

RELEASE BACKGROUND

2RP-5630

On September 4, 2019, it was discovered that a connection on the water transfer line failed and caused the release of approximately 10 barrels (bbls) of produced water into the lined secondary containment, onto the well pad surface and, ultimately, off-site into the pasture. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 8 bbls of produced water was recovered. 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) on September 4, 2019 and was subsequently assigned Remediation Permit (RP) Number 2RP-5630 (Attachment 1).

2RP-5647

September 9, 2019, it was discovered that a connection on the water transfer line caused a second release of 60 bbls of produced water into the lined secondary containment and onto the well pad and pasture surfaces. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 50 bbls of produced water was recovered from the secondary containment. 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) on September 16, 2019 and was subsequently assigned Remediation Permit (RP) Number 2RP-5647 (Attachment 1).

SITE CHARACTERIZATION

LTE determined closure criteria according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 55 feet below ground surface (bgs) based on information obtained from a nearby soil boring. The nearest permitted water well with depth to water data is New Mexico Office of the State Engineer (OSE) file number C 04418, located approximately 271 feet southeast of the Site. OSE well C 04418 is a borehole advanced by WPX on March 31, 2020 during an investigation to determine depth to water in the area. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of 55 feet bgs. No water was observed within the soil boring after 48 hours and the boring was plugged and abandoned. A Plugging Record of the well is included as Attachment 2. The closest significant watercourse to the Site is the Pecos River, located approximately 3,939 feet west of the Site. The Site is greater than 300 feet from any occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium-potential karst area. Potential receptors identified during site characterization are displayed in Figure 1.

CLOSURE CRITERIA

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);
- 2,500 mg/kg total petroleum hydrocarbons (TPH);
- 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and
- 10,000 mg/kg chloride.

Additionally, a reclamation standard for chloride of 600 mg/kg is applied for the top four feet of the subject release areas to be reclaimed immediately.

INITIAL SOIL SAMPLING

On September 9, 2019, LTE inspected and mapped the release areas using a Global Positioning System (GPS) and collected four soil samples (SS01 through SS04) from the impacted areas associated with 2RP-5630 and 2RP-5647. The release extents and locations of preliminary soil

samples are depicted on Figure 2. The soil samples were field screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, and 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-motor oil range organics (MRO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. Photographic documentation of the Site visit is included in Attachment 3.

Laboratory analytical results of soil samples indicated elevated chloride and TPH concentrations within the release areas, warranting additional delineation of the impacts.

DELINEATION SAMPLING

Between September 10, 2019 and May 29, 2020, LTE personnel conducted delineation events. In an attempt to define the vertical and horizontal extent of the release, nineteen soil borings (PH01 through PH19) were advanced utilizing heavy equipment within and around the impacted area. Potholes where advanced to depths ranging from 4 feet bgs to 13 feet bgs. Two soil samples were collected from each soil boring: the most impacted depth based on field screening results and the terminus of the pothole. Field screening was conducted, at minimum, every 1 foot interval for volatile aromatic hydrocarbons using a PID and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 4. Due to analytical results indicating concentrations below the Closure Criteria of 50 mg/kg for BTEX, 1,000 mg/kg for GRO and DRO, and 2,500 mg/kg for TPH in soil samples PH01 at 2 feet bgs, PH03 at 2 feet bgs and PH04 at 2 feet bgs, BTEX and TPH analysis for soil samples PH01A at 6 feet bgs, PH01B at 10 feet bgs, PH03A at 6 feet bgs and PH04A at 4 feet bgs were not analyzed. All remaining soil samples were collected, handled and analyzed for BTEX, TPH and chloride as previously described. The locations of delineation soil samples are depicted on Figure 3. Photographic documentation of the Site visit is included in Attachment 3.

Laboratory analytical results of delineation soil samples indicated chloride concentrations ranged from below the laboratory detection limits to 17,900 mg/kg and TPH concentrations ranging from below the laboratory detection limits to 1,670 mg/kg.

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CONCLUSIONS

The impacted areas associated with these subject releases contained TPH and chloride concentrations above the Closure Criteria; however, TPH impacts exceeding the Closure Criteria is restricted to the well pad surface near the release source. Based on field screening activities and laboratory analytical results of the delineation soil samples, representative clean vertical and horizontal boundaries have been identified.

PROPOSED WORK PLAN

Excavation will be conducted to remediate identified impacts associated with the subject releases to extents consistent with the compiled analytical data. Furthermore, an estimated 16,880 square feet of surface area and depth range of 2 feet bgs to 6 feet bgs is proposed to be remediated following approval of this Remediation Work Plan request. The defined horizontal extent is depicted on Figure 4. Following successful remediation as demonstrated through laboratory analytical results of confirmation excavation soil samples, the excavation will be backfilled with clean locally sourced fill material, and the Site will be restored to "as close to its original state" as possible. The laboratory analytical results for the confirmation samples will be provided to the NMOCD in a Closure Request. However, based on process knowledge, a Deferral Request may also be prepared for review to address final remediation of inaccessible onsite areas until any major renovation, deconstruction, and/or the pipelines are abandoned.

PROPOSED SAMPLING

WPX is requesting a variance to the 200 square foot confirmation sampling requirement for the areas to be excavated, which would require an estimated 85 floor samples within the release extent, excluding sidewall samples. Due to the large extent of the impacted area, LTE proposes increasing the confirmation sampling size to collecting a 5-point composite sample to represent each 500 square foot area. An estimated 34 confirmation samples will be collected from the excavation floor following the completion of remediation activities. Figure 4 illustrates the proposed sampling grids overlaying the representative clean boundaries. Each square in the grid represents a 500 square foot composite sampling area. Figure 4 does not illustrate sidewall sample locations, which will also be collected to represent 500 square feet sampling areas. Based on the results from BTEX analysis from preliminary and delineation analytical, WPX is proposing to omit all BTEX analysis for confirmation samples since concentrations did not exceed the Closure Criteria of 50 mg/kg for BTEX. Additionally, WPX is proposing to omit all TPH analysis for confirmation samples collected from the pasture, with the exception of the area representative of soil sample PH02 at 2 feet bgs, which indicated exceedances above the Closure Criteria of 1,000 mg/kg for GRO and DRO.

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If you have any questions or comments, please do not hesitate to contact Mr. Chris McKisson at (970) 285-9985 or cmckisson@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Chris McKisson
Project Environmental Scientist

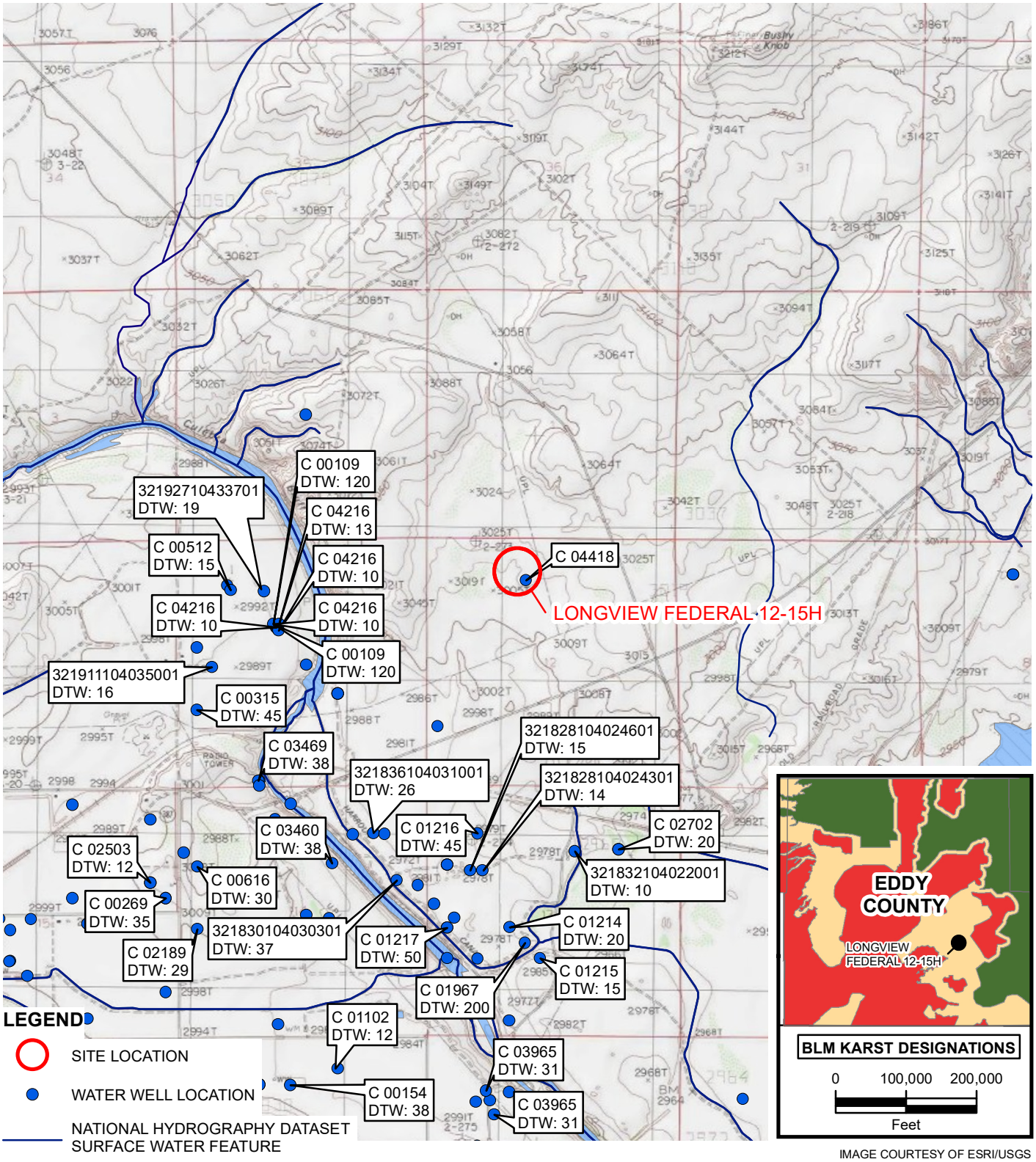
Ashley L. Ager, M.S., P.G.
Senior Geologist

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 3	Delineation Soil Sample Locations
Figure 4	Sampling Variance Request
Table 1	Soil Analytical Results
Attachment 1	Form C-141 (2RP-5630 & 2RP-5647)
Attachment 2	Plugging Record
Attachment 3	Photographic Log
Attachment 4	Lithologic/Soil Sample Logs
Attachment 5	Laboratory Analytical Reports

FIGURES



NOTE: REMEDIATION PERMIT NUMBERS
2RP-5630 (9/4/2019) & 2RP-5647 (9/9/2019)
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
LONGVIEW FEDERAL 12-15H
UNIT C SEC 12 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

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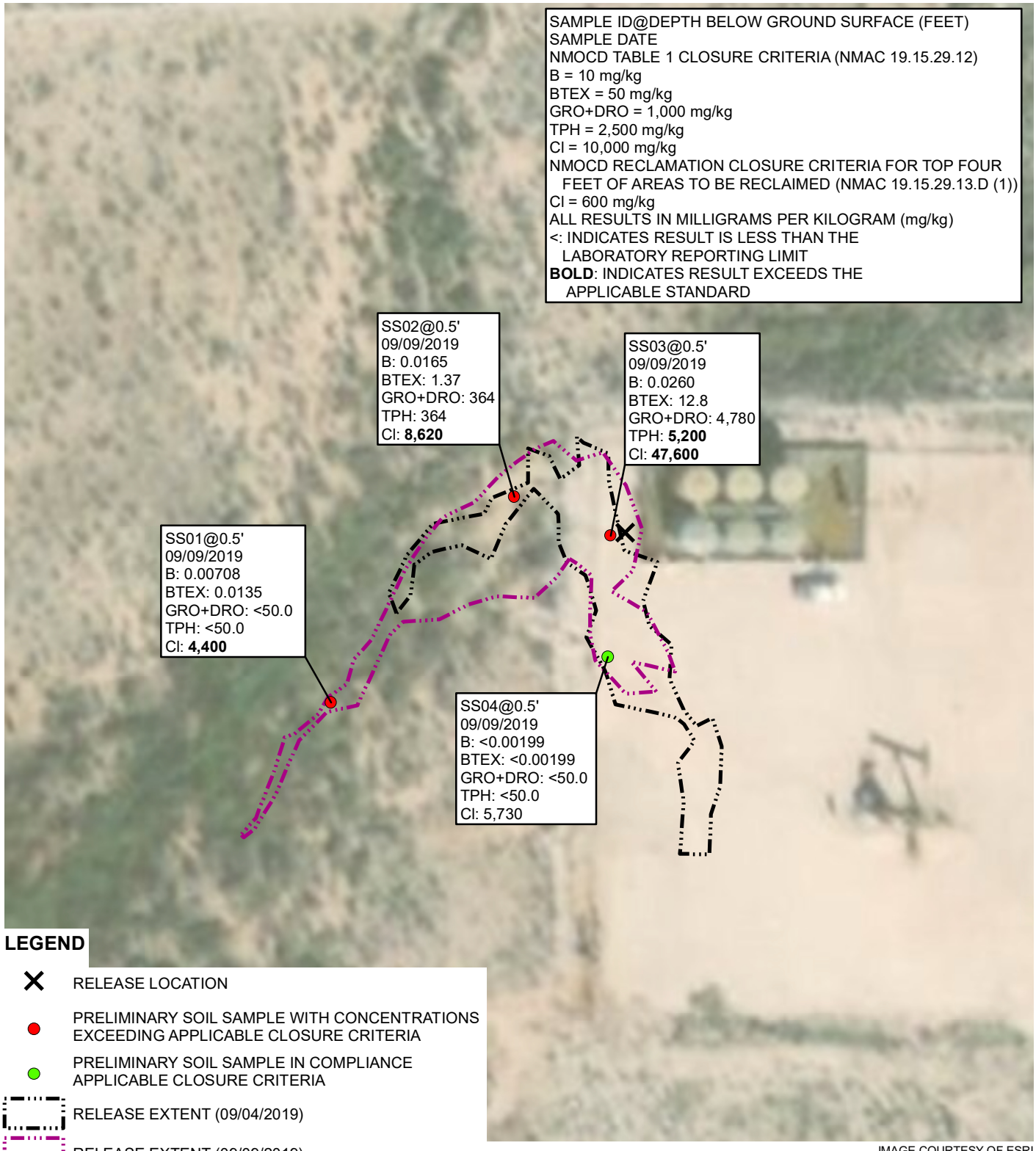

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
LONGVIEW FEDERAL 12-15H
UNIT C SEC 12 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

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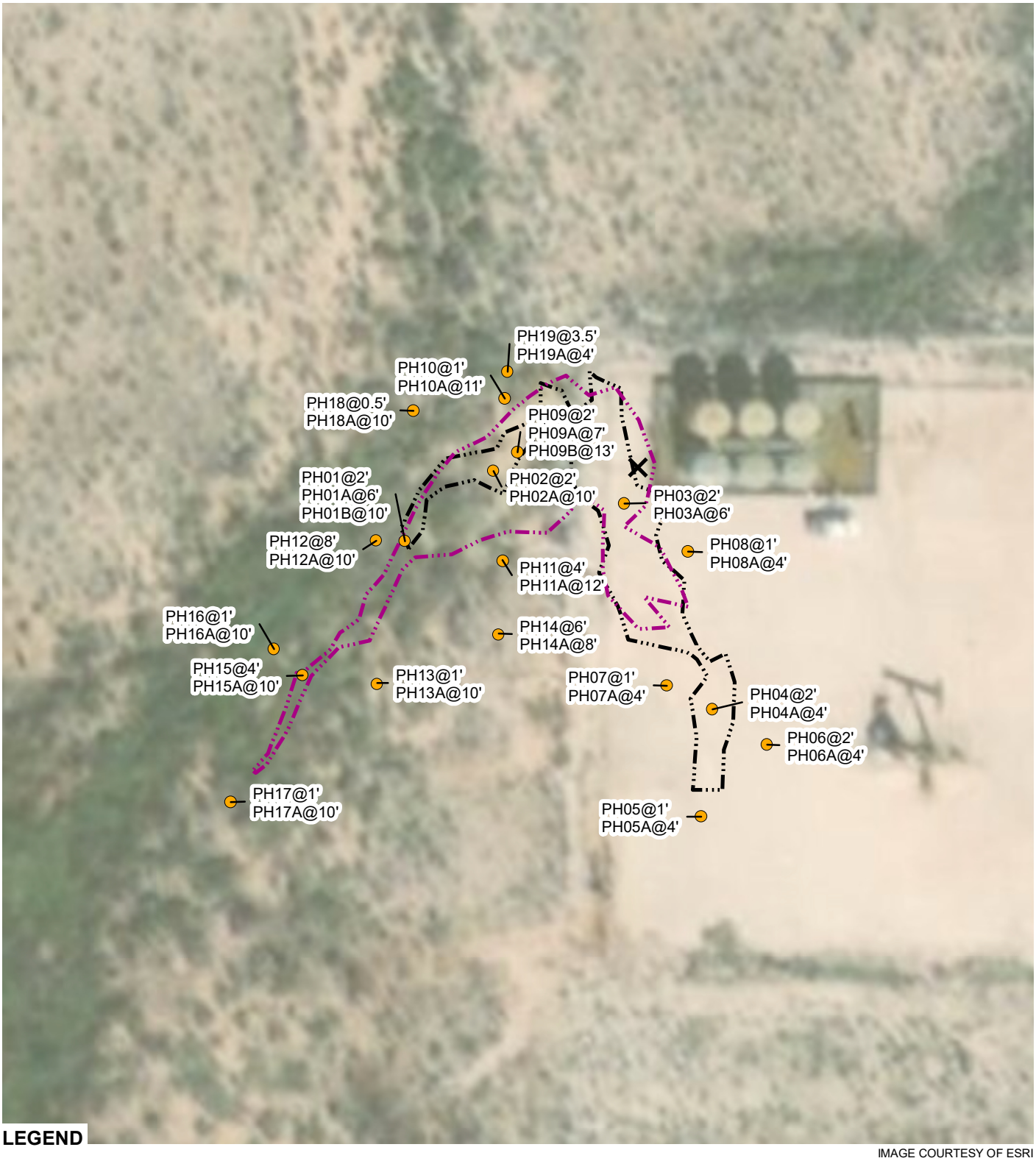

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE
- RELEASE EXTENT (09/04/2019)
- RELEASE EXTENT (09/09/2019)

NOTE: REMEDIATION PERMIT NUMBERS
2RP-5630 (9/4/2019) & 2RP-5647 (9/9/2019)
3,998 SQUARE FEET OF IMPACTED AREA IN PASTURE
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 60 120
Feet

N

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
LONGVIEW FEDERAL 12-15H
UNIT C SEC 12 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

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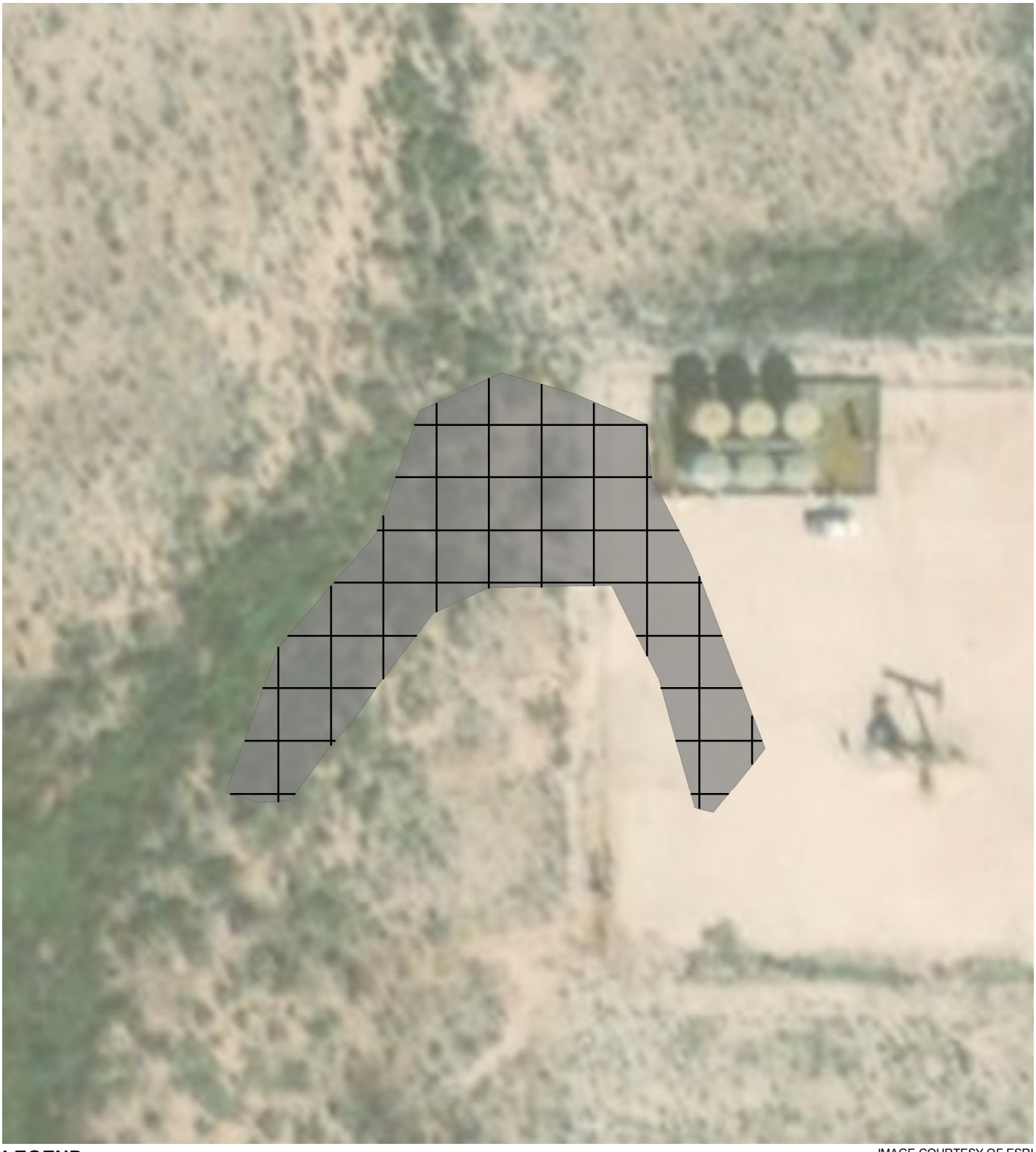

LEGEND

500 SQUARE FOOT SAMPLING GRID

DEFINED HORIZONTAL EXTENT (16,880 SQUARE FEET)

IMAGE COURTESY OF ESRI

0 60 120

Feet

N

NOTE: REMEDIATION PERMIT NUMBERS
2RP-5630 (9/4/2019) & 2RP-5647 (9/9/2019)
11,532 SQUARE FEET OF IMPACTED AREA IN PASTURE
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 4
SAMPLING VARIANCE REQUEST
LONGVIEW FEDERAL 12-15H
UNIT C SEC 12 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

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TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

LONGVIEW FEDERAL 12-15H
REMEDIATION PERMIT NUMBER 2RP-5630 & 2RP-5647
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)	MRO (mg/kg)	Sum of GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**	
SS01	0.5	09/09/2019	0.00708	0.00640	<0.00199	<0.00199	0.0135	<50.0	<50.0	<50.0	<50.0	<50.0	**4,400***	In-situ
SS02	0.5	09/09/2019	0.0165	0.179	0.119	1.05	1.37	<49.8	364	<49.8	364	364	**8,620***	In-situ
SS03	0.5	09/09/2019	0.0260	0.376	0.223	12.2	12.8	583	4,200	418	**4,780**	**5,200**	**47,600**	In-situ
SS04	0.5	09/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	5,730	In-situ
PH01	2	09/10/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<25.1	<25.1	<25.1	<25.1	<25.1	**16,100***	In-situ
PH01A	6	09/10/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16,400***	In-situ
PH01B	10	09/10/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	105*	In-situ
PH02	2	09/10/2019	0.00837	0.137	0.158	1.11	1.41	154	1,520	<25.1	**1,670**	1,670	**17,900***	In-situ
PH02A	10	09/10/2019	<0.000990	<0.000990	<0.000990	0.0105	0.0105	<25.0	103	<25.0	103	103	2,100*	In-situ
PH03	2	09/12/2019	<0.00101	0.0323	0.0448	0.425	0.502	<24.9	206	<24.9	206	206	982	In-situ
PH03A	6	09/12/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	376	In-situ
PH04	2	09/12/2019	<0.00100	<0.00100	0.00108	<0.00100	0.00108	<25.1	<25.1	<25.1	<25.1	<25.1	1,460	In-situ
PH04A	4	09/12/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	395	In-situ
PH05	1	12/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	370	In-situ
PH05A	4	12/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	52.3	In-situ
PH06	2	12/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	176	In-situ
PH06A	4	12/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	95.3	In-situ
PH07	1	12/11/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	220	In-situ
PH07A	4	12/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	176	In-situ
PH08	1	12/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	207	In-situ
PH08A	4	12/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	58.0	In-situ
PH09	2	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	**17,400***	In-situ
PH09A	7	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	57.2*	In-situ
PH09B	13	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	20.0*	In-situ

TABLE 1
SOIL ANALYTICAL RESULTS

LONGVIEW FEDERAL 12-15H
REMEDIATION PERMIT NUMBER 2RP-5630 & 2RP-5647
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)	MRO (mg/kg)	Sum of GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	Application
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**	
PH10	1	12/12/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	60.5	<50.0	60.5	60.5	**760***	In-situ
PH10A	11	12/12/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	19.0*	In-situ
PH11	4	12/12/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	642*	In-situ
PH11A	12	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	383*	In-situ
PH12	8	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	217*	In-situ
PH12A	10	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	521*	In-situ
PH13	1	12/12/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	19.0*	In-situ
PH13A	10	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	<9.96*	In-situ
PH14	6	01/31/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	280*	In-situ
PH14A	8	01/31/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	307*	In-situ
PH15	4	01/31/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	3,250*	In-situ
PH15A	10	01/31/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	<10.1*	In-situ
PH16	1	01/31/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	16.9*	In-situ
PH16A	10	01/31/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	16.7*	In-situ
PH17	1	01/31/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	26.6*	In-situ
PH17A	10	01/31/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	10.1*	In-situ
PH18	0.5	05/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	68.6*	In-situ
PH18A	10	05/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	10.8*	In-situ
PH19	3.5	05/29/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	357*	In-situ
PH19A	4	05/29/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	135*	In-situ

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - not established
NA - not analyzed
NMOCD - New Mexico Oil Conservation Division
DRO - diesel range organics
GRO - gasoline range organics
MRO - motor oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold- indicates result exceeds the applicable regulatory standard
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration the top 4 feet of soil is 600 mg/kg
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018 NMAC -New Mexico Administrative Code

ATTACHMENT 1: FORM C-141 (2RP-5630 & 2RP-5647)

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	NAB1927160599
District RP	2RP-5630
Facility ID	
Application ID	pAB1927160210

Release Notification WLPCF-190904-C-1410

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Bob Raup	Contact Telephone: 539-573-7314
Contact email: Bob.Raup@wpxenergy.com	Incident # *(assigned by OCD)* NAB1927160599
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.324960 Longitude -104.042504
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Longview Federal 12-15H	Site Type: Production Facility
Date Release Discovered: 9/4/2019	API# *(if applicable)*: 30-015-41092

Unit Letter	Section	Township	Range	County
C	12	23S	28E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name: Bureau of Land Management*)

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) 10	Volume Recovered (bbls) 8
	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: Approximately 10 BBL's of produced water was released to lined secondary containment, the surface of the well pad, and off site after a connection failure along the water transfer line developed.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1927160599
District RP	2RP-5630
Facility ID	
Application ID	pAB1927160210

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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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

Printed Name: Robert W. Raup II

Title: HSE Supervisor

Signature: Robert W. Raup II

Date: 9/4/2019

email: Bob.Raup@wpxenergy.com

Telephone: 539-573-7314

OCD Only

Received by: Amalia Bustamante

Date: 9/28/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1927160599
District RP	2RP-5630
Facility ID	
Application ID	pAB1927160210

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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1927160599
District RP	2RP-5630
Facility ID	
Application ID	pAB1927160210

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: Jim Raley Date: 6-5-2020

email: james.raley@wpxenergy.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1927160599
District RP	2RP-5630
Facility ID	
Application ID	pAB1927160210

Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Jim Raley Title: Environmental Specialist

Signature: Jim Raley Date: 6-5-2020

email: james.raley@wpxenergy.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

ATTACHMENT 2: PLUGGING RECORD

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C 04418

Well owner: WPX Energy Phone No.:

Mailing address: 5315 Buena Vista Drive

City: Carlsbad State: NM Zip code: 88220

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: HRL Compliance Solutions

2) New Mexico Well Driller License No.: 1789 Expiration Date: 12/20/2020

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Kalvin (Kelly) Padilla

4) Date well plugging began: 4/3/2020 Date well plugging concluded: 4/3/2020

5) GPS Well Location: Latitude: 32 deg, 19 min, 29.6 sec
Longitude: -104 deg, 02 min, 33.7 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 55 ft below ground level (bgl), by the following manner: Measuring Tape

7) Static water level measured at initiation of plugging: > 55 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: Not Applicabl

9) Were all plugging activities consistent with an approved plugging plan? Not Applicable If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Clean Native Soil to 10' Bent chips to the surface	N/A	N/A	N/A	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Mark Mumby, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller — Date: 4/23/2020

ATTACHMENT 3: SOIL SAMPLING LOGS

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BH or PH Name: PH01	Date: 9/10/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Lynda Laumbach / Method: Backhoe
Lat/Long: 32.32534677N, 104.04362773W / Field Screening: Chloride	Hole Diameter: N/A / Total Depth: 10'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method; M- moist soil

Moisture Content	Chloride (Quantab Units)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
Dry	7.8	n/a	No	PH01	2	2	SP-SM	dark brown sand (m.) with silt and gravel; moderate plasticity, trace organics, no odor
Dry	7.0	n/a	No		4	4	cche	tan moderately-cemented sandy (m.) caliche with gravel-sized clasts; no odor, no plasticity
Dry	7.4	n/a	No	PH01A	6	6	cche	pink-tan poorly-cemented sandy (m. to c. grained) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
Dry	161 ppm	n/a	No	PH01B	10	10	cche	pink-tan poorly-cemented sandy (m. to c. grained) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
								TOTAL DEPTH

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

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BH or PH Name: PH02	Date: 9/10/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Lynda Laumbach / Method: Backhoe
Lat/Long: 32.32542823N, 104.043506W / Field Screening: Chloride	Hole Diameter: N/A / Total Depth: 10'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method; M- moist soil

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
						1		
Dry	9,584	n/a	No	PH02	2	2	SP-SM	brown, poorly-graded sand (m.) with silt; no plasticity,odor
						3		
Dry	10,496	n/a	No			4	cche	tan moderately-cemented sandy caliche (m.); odor, no plasticity
						5		
						6		
						7		
Dry	1,420	n/a	No			8	cche	tan moderately-cemented sandy caliche (m.); odor, no plasticity ~1/8" gypsum
						9		
Dry	BDL	n/a	No	PH02A	10	10	cche	tan moderately-cemented sandy caliche (m.); odor, no plasticity
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH03	Date: 9/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Lynda Laumbach / Method: Backhoe
Lat/Long: 32.32539005N, 104.04332601W / Field Screening: Chloride	Hole Diameter: N/A / Total Depth: 6'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
H- HACH High Range Chloride Test Strip; L- HACH Low Range Chloride Test Strip

Moisture Content	Chloride (Quantab Unit)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
						1		
Dry	1.8 H	n/a	No	PH03	2	2	SP-SM	reddish brown poorly-graded sand (m.) with silt and gravel; no plasticity, o
						3		
Dry	4.4 L	n/a	No			4	cche	tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						5		
Dry	2.4 L	n/a	No	PH03A	6	6	cche	tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						7		TOTAL DEPTH
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH04	Date: 9/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Lynda Laumbach / Method: Backhoe
Lat/Long: 32.3251498N, 104.04320532W / Field Screening: Chloride	Hole Diameter: N/A / Total Depth: 4'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
L - HACH Low Range Chloride Test Strip

Moisture Content	Chloride (Quantab Unit)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
						1		
Dry	4.4 L	n/a	No	PH04	2	2	SP-SM	brown poorly-graded sand (m.) with silt; no plasticity, no odor
						3		
Dry	2.0 L	n/a	No	PH04A	4	4	cche	tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						5		TOTAL DEPTH
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH05	Date: 12/11/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Backhoe
Lat/Long: 32.32502399N, 104.04322139W / Field Screening: Chloride, PID	Hole Diameter: N/A / Total Depth: 4'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below detection limit of HACH Chloride Test Strips

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
Dry	268	0	No	PH05	1	1	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	148	0.1	No			2	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	BDL	1	No			3	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	BDL	0	No	PH05A	4	4	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
						5		TOTAL DEPTH
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH06	Date: 12/11/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Backhoe
Lat/Long: 32.32510809N, 104.04313054W / Field Screening: Chloride, PID	Hole Diameter: N/A / Total Depth: 4'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below detection limit of HACH Chloride Test Strips

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
Dry	BDL	0	No			1	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	148	0	No	PH06	2	2	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	BDL	0	No			3	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
Dry	BDL	0	No	PH06A	4	4	cche	grey-brown, well-cemented sandy (m. grained) caliche; no odor, gravel-cobble sized clasts within a microcrystalline carbonate matrix
						5		TOTAL DEPTH
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH07	Date: 12/11/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.32517741N, 104.04326864W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below detection limit of HACH Chloride Test Strips

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
Dry	236	0	No	PH07	1	1	SP-SM	brown, poorly-graded sand (m.) with silt and gravel, no plasticity, no odor
Dry	BDL	0	No			2	cche	tan, moderately cemented sandy (f. to m. grained) cement with gravel sized clasts; caliche
Dry	BDL	0	No			3	cche	tan, moderately cemented sandy (f. to m. grained) cement with gravel sized clasts; caliche
Dry	148	0	No	PH07A	4	4	cche	tan, moderately cemented sandy (f. to m. grained) cement with gravel sized clasts; caliche
						5		TOTAL DEPTH
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH08	Date: 12/11/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Backhoe
Lat/Long: 32.32533373N, 104.04323874W / Field Screening: Chloride, PID	Hole Diameter: N/A / Total Depth: 4'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below detection limit of HACH Chloride Test Strips

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Pad surface caliche
Dry	172	0	No	PH08	1	1	SP-SM	brown, poorly-graded sand (m.) with silt and gravel, no plasticity, no odor
Dry	BDL	0	No			2	SP-SM	brown, poorly-graded sand (m.) with silt and gravel, no plasticity, no odor
Dry	BDL	0	No			3	cche	tan, moderately cemented sandy (f. to m. grained) cement with gravel sized clasts; caliche
Dry	BDL	0	No	PH08A	4	4	cche	tan, moderately cemented sandy (f. to m. grained) cement with gravel sized clasts; caliche
						5		TOTAL DEPTH
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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BH or PH Name: PH09	Date: 12/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Backhoe
Lat/Long: 32.32545039N, 104.04347253W / Field Screening: Chloride, PID	Hole Diameter: N/A / Total Depth: 13'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method; M- moist soil

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
						1		
M	21,820	1.6	Yes	PH09	2	2	SP-SM	dark brown sand (m.) with silt and gravel; moderate plasticity, trace
M	6,796	1.5	Yes			3	cche	brown moderately-cemented sandy (m.) caliche; no odor, no plasticity
M	6,796	1.0	No			4	cche	tan moderately-cemented sandy (m.) caliche with gravel-sized clasts; no odor, no plasticity
M	7,392	0.1	No			5	cche	pink-tan poorly-cemented sandy (m.) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
						6		
M	BDL	0	No	PH09A	7	7	cche	pink-tan poorly-cemented sandy (m. to c. grained) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
						8		
M	BDL	1.0	No			9	cche	pink-tan poorly-cemented sandy (m. to c. grained) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
						10		
M	BDL	0.4	No		11-12	11	cche	pink-tan poorly-cemented sandy (m. to c. grained) caliche with poorly sorted sub-angular, gravel-sized clasts; no odor, no plasticity
M	BDL	0	No	PH09B	13	13	cche	pink-tan poorly-cemented sandy (m.) caliche with moderately sorted sub-angular, gravel-sized clasts; no odor, no plasticity

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BH or PH Name: PH10	Date: 12/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 11'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.32551313N, 104.04348974W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No	PH10	1	1	SM	brown poorly-graded silty sand (m.) with trace organics; no plasticity, no odor
Dry	BDL	0	No			2	SP-SM	brown poorly-graded sand (m.) with silt and gravel (5mm-35mm) and trace organics; no plasticity, no odor
						3		
Dry	BDL	0	No			4	cche	tan poorly-cemented sandy (m.) caliche; no odor, no plasticity individual sand grain colors {black, brown, red and white}
						5		
Dry	BDL	0	No			6	cche	tan poorly-cemented sandy (m. to c. grained) caliche; no odor, no plasticity individual sand grain colors {black, brown, red and white}
						7		
Dry	BDL	0	No			8	cche	tan poorly-cemented sandy (m. to c. grained) caliche; no odor, no plasticity individual sand grain colors {black, brown, red and white}
						9		
Dry	BDL	0	No			10	cche	tan poorly-cemented sandy (m.) caliche; no odor, no plasticity individual sand grain colors {black, brown, red and white}
Dry	BDL	0	No	PH10A	11	11	cche	tan poorly-cemented sandy (f. to m. grained) caliche; no odor, no plasticity individual sand grain colors {black, brown, red and white}
						12		TOTAL DEPTH

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BH or PH Name: PH11	Date: 12/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Anna Byers	Method: Backhoe		
Lat/Long: 32.3253110N, 104.0434740W	Field Screening: Chloride, PID	Hole Diameter: N/A	Total Depth: 12'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No			1	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
Dry	BDL	0	No			2	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
Dry	236	0	No			3	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
Dry	528	0	No	PH11	4	4	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						5		
Dry	388	0	No			6	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						7		
Dry	388	0	No			8	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						9		
Dry	344	0	No			10	cche	pink-brown moderately-cemented caliche: cobble to boulder sized carbonate clasts (pourous - 2 to 6mm - microcrystalline matrix) and gypsum within a tan-brown sandy (m.) matrix
						11		
Dry	268	0	No	PH11A	12	12	cche	pink-tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, no odor

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BH or PH Name: PH12	Date: 12/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Anna Byers	Method: Backhoe		
Lat/Long: 32.3253473N, 104.0436672W	Field Screening: Chloride, PID	Hole Diameter: N/A	Total Depth: 10'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No			1	SM	brown, poorly-graded sand (m.) with silt; trace organics, no plasticity, no odor
Dry	BDL	0	No			2	SM	brown, poorly-graded sand (m.) with silt; trace organics, no plasticity, no odor
Dry	BDL	0	No			3	SM	brown, poorly-graded silty sand (m.); cohesive clumps but no plasticity once broken, difficult to break clumps by hand, no odor
Dry	BDL	0	No			4	SM	brown, poorly-graded silty sand (m.); cohesive clumps but no plasticity once broken, difficult to break clumps by hand, no odor
						5		
Dry	BDL	0	No			6	cche	tan poorly-cemented sandy (m.) caliche; no plasticity, no odor individual sand grains {black, brown, red}
						7		
Dry	236	0	No	PH12	8	8	cche	tan poorly-cemented sandy (m.) caliche; no plasticity, no odor individual sand grains {black, brown, red}
						9		
Dry	344	0	No	PH12A	10	10	cche	tan poorly-cemented sandy (m.) caliche; no plasticity, no odor individual sand grains {black, brown, red}
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH13	Date: 12/12/2019
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.3252080N, 104.0436650W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No	PH13	1	1	SP-SM	brown, poorly-graded sand (m.) with silt; no plasticity, no odor
Dry	BDL	0	No			2	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {black, brown, red and white}
Dry	BDL	0	No			3	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {black, brown, red and white}
Dry	BDL	0	No			4	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {black, brown, red and white}
						5		
Dry	BDL	0	No			6	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {black, brown, red and white}
						7		
Dry	BDL	0	No			8	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {black, brown, red and white}
						9		
Dry	BDL	0	No	PH13A	10	10	SP	brown, poorly-graded sand (m.); no plasticity, no odor
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH14	Date: 1/31/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Lat/Long: 32.3252580N, 104.0434810W	Field Screening: Chloride, PID
Hole Diameter: N/A	Total Depth: 8'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	BDL	0	No			1	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
D	BDL	0	No			2	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
D	BDL	0	No			3	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
D	BDL	0	No			4	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						5		
D	236	0	No	PH14	6	6	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						7		
D	344	0	No	PH14A	8	8	cche	tan moderate-cemented caliche with sandy (m.) matrix; no plasticity, individual sand grains {brown, black}, no odor
						9		TOTAL DEPTH
						10		
						11		
						12		

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BH or PH Name: PH15	Date: 1/31/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.32519019N, 104.04376899W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method; M - moist soil

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	196	0	No			1	SM	brown, poorly-graded silty sand (m.); trace organics, no plasticity, no odor
Dry	124	0	No			2	SM	brown, poorly-graded silty sand (m.); trace organics, no plasticity, no odor
M	720	0	No			3	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; low to moderate plasticity, no odor
M	3,024	0	No	PH15	4	4	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; low to moderate plasticity, no odor
						5		
M	1,648	0	No			5.5	cche	tan poorly-cemented caliche with fine grained (f.) sandy matrix; no plasticity, no odor
						6		
M	2,056	0	No			7	cche	tan poorly-cemented caliche with fine grained (f.) sandy matrix; no plasticity, no odor
						8		
						9		
M	BDL	0	No	PH15A	10	10	cche	tan poorly-cemented caliche with fine grained (f.) sandy matrix; no plasticity, no odor
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH16	Date: 1/31/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Lat/Long: 32.32522117N, 104.04380802W	Field Screening: Chloride, PID
Hole Diameter: N/A	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No	PH16	1	1	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; no plasticity, no odor, trace organics
Dry	BDL	0	No			2	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; no plasticity, no odor, trace organics
Dry	BDL	0	No			3	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; no plasticity, no odor, trace organics
Dry	BDL	0	No			4	SP-SM	brown, poorly-graded sand (m.) with silt and gravel; no plasticity, no odor, trace organics
						5		
Dry	BDL	0	No			6	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {red, black, brown}
						7		
Dry	BDL	0	No			8	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {red, black, brown}
						9		
Dry	BDL	0	No	PH16A	10	10	cche	tan, moderately-cemented sandy (m.) caliche; no odor, no plasticity individual sand grains {red, black, brown}
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH17	Date: 1/31/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.32504276N, 104.04386843W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method; M- moist soil

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No	PH17	1	1	SP-SM	brown, poorly- graded sand (m.) with silt and gravel; trace organics, no plasticity, no odor
M	BDL	0	No			2	SP-SM	brown, poorly- graded sand (m.) with silt and gravel; trace organics, no plasticity, no odor
M	BDL	0	No			3	SP-SM	brown, poorly- graded sand (m.) with silt and gravel; trace organics, no plasticity, no odor
M	BDL	0	No			4	cche	pink-tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						5		
M	BDL	0	No			6	cche	pink-tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						7		
M	BDL	0	No			8	cche	pink-tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						9		
M	BDL	0	No	PH17A	10	10	cche	pink-tan moderately-cemented sandy (m.) caliche; no plasticity, no odor
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH18	Date: 5/29/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
Logged By: Anna Byers	Method: Backhoe
Hole Diameter: N/A	Total Depth: 10'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.32549929N, 104.04361549W

Field Screening: Chloride, PID

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	BDL	0	No	PH18	0.5	0.5	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticity, no odor
						1		
						2		
Dry	BDL	0	No			3	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticity, no odor
						3.5	cche	white to pink, well-cemented caliche (approximately 4" thick)
Dry	BDL	0	No			4	cche	grey to pink, moderately-cemented caliche with poorly-graded sandy matrix; no odor, no plasticity
Dry	BDL	0	No			5	cche	grey to pink, moderately-cemented caliche with poorly-graded sandy matrix; no odor, no plasticity
						6		
						7		
Dry	BDL	0	No			7.5	cche	grey to pink, moderately-cemented caliche with poorly-graded sandy matrix; no odor, no plasticity
						8		
						9		
Dry	BDL	0	No	PH18A	10	10	cche	grey to pink, moderately-cemented caliche with poorly-graded sandy matrix; no odor, no plasticity
						11		TOTAL DEPTH
						12		

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BH or PH Name: PH19	Date: 5/29/2020
Site Name: Longview Federal 12-15H	
RP or Incident Number: 2RP- 5630 & 2RP-5647	
LTE Job Number: 034819045	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Backhoe
Lat/Long: 32.32554439N, 104.04348631W / Field Screening: Chloride, PID	Hole Diameter: N/A / Total Depth: 4'

Comments: Reported Chloride values do not include 40% correction factor. Field screening was conducted with a 1:4 dilution of soil to distilled water
BDL - Below Detection Limit of Hach Chloride Test Strip field screening method

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	248	0	No			0.5	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticty, no odor, and trace organics
D	320	0	No			1	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticty, no odor, and trace organics
D	212	0	No			2	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticty, no odor, and trace organics
						3	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticty, no odor, and trace organics
D	360	0	No	PH19	3.5			
D	128	0	No	PH19A	4	4	SP-SM	brown poorly-graded sand (m.) with silt and gravel; no plasticty, no odor
								TOTAL DEPTH
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ATTACHMENT 4: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: Northeastern view of the release extent on pad.

Photograph 2: Southeastern view of the release extent on pad.

Photograph 3: Eastern view of the release extent in the pasture.

Photograph 4: Northeastern view of the release extent in the pasture.

Photograph 5: Western view of the pasture release extent.

Photograph 6: Northwestern view of the pasture release extent.

PHOTOGRAPHIC LOG

Photograph 7: Northern view of the pasture release extent, west of the tank battery containment.

Photograph 8: Northern view of the pasture release extent.

Photograph 9: Eastern view of the pasture release extent.

Photograph 10: Northwestern view of the pasture release extent.

Photograph 11: Point of release west of the tank battery containment.

Photograph 12: Western view of the pasture release extent.

PHOTOGRAPHIC LOG

Photograph 13: Southern view of the pasture release extent.

Photograph 14: Northeastern view of the pasture release extent.

Photograph 15: Southern view of the pasture release extent.

Photograph 16: Eastern view of the pasture release extent and point of release.

Photograph 17: Potholing within the pasture release extent.

Photograph 18: Potholing within the pasture release extent.

PHOTOGRAPHIC LOG

Photograph 13: Northern view of the pasture release extent adjacent to the pad.

Photograph 14: Northern view of the pasture release extent.

Photograph 15: Northeastern view of the pasture release extent.

Photograph 16: Northwestern view of potholing north of the release extent.

Photograph 17: Potholing north of the release extent (PH18).

Photograph 18: Potholing north of the release extent.

ATTACHMENT 5: LABORATORY ANALYTICAL REPORTS

Analytical Report 636393

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 12-15H

34819045

13-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

13-SEP-19

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

Reference: XENCO Report No(s): **636393**
Longview Federal 12-15H
Project Address:

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) 636393. 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. 636393 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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Sample Cross Reference 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	09-09-19 15:00	0.5 ft	636393-001
SS02	S	09-09-19 15:10	0.5 ft	636393-002
SS03	S	09-09-19 15:20	0.5 ft	636393-003
SS04	S	09-09-19 15:30	0.5 ft	636393-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15H

Project ID: *34819045*
Work Order Number(s): *636393*

Report Date: *13-SEP-19*
Date Received: *09/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101274 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 636393-003,636393-002.

Lab Sample ID 636393-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 636393-001, -002, -003, -004.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 636393

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 34819045
Contact: Chris McKisson
Project Location:

Date Received in Lab: Tue Sep-10-19 08:05 am
Report Date: 13-SEP-19
Project Manager: Jessica Kramer

Analysis Requested															
	Lab Id:	636393-001		636393-002		636393-003		636393-004							
	Field Id:	SS01		SS02		SS03		SS04							
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL							
	Sampled:	Sep-09-19 15:00		Sep-09-19 15:10		Sep-09-19 15:20		Sep-09-19 15:30							
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Sep-11-19 12:30		Sep-11-19 12:30		Sep-11-19 12:30		Sep-11-19 12:30							
	Analyzed:	Sep-12-19 12:06		Sep-12-19 12:26		Sep-12-19 12:46		Sep-12-19 01:06							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		0.00708	0.00199	0.0165	0.00200	0.0260	0.00202	<0.00199	0.00199						
Toluene		0.00640	0.00199	0.179	0.00200	0.376	0.00202	<0.00199	0.00199						
Ethylbenzene		<0.00199	0.00199	0.119	0.00200	0.223	0.00202	<0.00199	0.00199						
m,p-Xylenes		<0.00398	0.00398	0.771	0.00399	11.8 D	0.202	<0.00398	0.00398						
o-Xylene		<0.00199	0.00199	0.280	0.00200	0.377	0.00202	<0.00199	0.00199						
Total Xylenes		<0.00199	0.00199	1.05	0.00200	12.2	0.00202	<0.00199	0.00199						
Total BTEX		0.0135	0.00199	1.37	0.00200	12.8	0.00202	<0.00199	0.00199						
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Sep-12-19 12:50		Sep-12-19 12:50		Sep-12-19 12:50		Sep-12-19 12:50							
	Analyzed:	Sep-13-19 08:29		Sep-13-19 08:35		Sep-13-19 08:41		Sep-13-19 08:48							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		4400	25.3	8620	100	47600	250	5730	50.2						
TPH by SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Sep-12-19 12:30		Sep-12-19 12:30		Sep-10-19 15:30		Sep-10-19 15:30							
	Analyzed:	Sep-12-19 12:47		Sep-12-19 13:44		Sep-11-19 22:00		Sep-11-19 22:19							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	583	49.8	<50.0	50.0						
Diesel Range Organics (DRO)		<50.0	50.0	364	49.8	4200	49.8	<50.0	50.0						
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	418	49.8	<50.0	50.0						
Total TPH		<50.0	50.0	364	49.8	5200	49.8	<50.0	50.0						
Total GRO-DRO		<50.0	50.0	364	49.8	4780	49.8	<50.0	50.0						

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id: **SS01** Matrix: Soil Date Received:09.10.19 08.05
Lab Sample Id: 636393-001 Date Collected: 09.09.19 15.00 Sample Depth:0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 09.12.19 12.50 Basis: Wet Weight
Seq Number: 3101312 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4400**	25.3	mg/kg	09.13.19 08.29		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 09.12.19 12.30 Basis: Wet Weight
Seq Number: 3101320 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.12.19 12.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.12.19 12.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.12.19 12.47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.12.19 12.47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.12.19 12.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.12.19 12.47	
o-Terphenyl	84-15-1	87	%	70-135	09.12.19 12.47	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-001	Date Collected:	09.09.19 15.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.11.19 12.30	Basis:	Wet Weight
Seq Number:	3101274			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00708**	0.00199	mg/kg	09.12.19 12.06		1
Toluene	108-88-3	**0.00640**	0.00199	mg/kg	09.12.19 12.06		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.12.19 12.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.12.19 12.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.12.19 12.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.12.19 12.06	U	1
Total BTEX		**0.0135**	0.00199	mg/kg	09.12.19 12.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	09.12.19 12.06	
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.12.19 12.06	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-002	Date Collected:	09.09.19 15.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.12.19 12.50	Basis:	Wet Weight
Seq Number:	3101312			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8620**	100	mg/kg	09.13.19 08.35		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.19 12.30	Basis:	Wet Weight
Seq Number:	3101320			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.12.19 13.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	**364**	49.8	mg/kg	09.12.19 13.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.12.19 13.44	U	1
Total TPH	PHC635	**364**	49.8	mg/kg	09.12.19 13.44		1
Total GRO-DRO	PHC628	**364**	49.8	mg/kg	09.12.19 13.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	09.12.19 13.44	
o-Terphenyl	84-15-1	98	%	70-135	09.12.19 13.44	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-002	Date Collected:	09.09.19 15.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.11.19 12.30	Basis:	Wet Weight
Seq Number:	3101274			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0165**	0.00200	mg/kg	09.12.19 12.26		1
Toluene	108-88-3	**0.179**	0.00200	mg/kg	09.12.19 12.26		1
Ethylbenzene	100-41-4	**0.119**	0.00200	mg/kg	09.12.19 12.26		1
m,p-Xylenes	179601-23-1	**0.771**	0.00399	mg/kg	09.12.19 12.26		1
o-Xylene	95-47-6	**0.280**	0.00200	mg/kg	09.12.19 12.26		1
Total Xylenes	1330-20-7	**1.05**	0.00200	mg/kg	09.12.19 12.26		1
Total BTEX		**1.37**	0.00200	mg/kg	09.12.19 12.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	185	%	70-130	09.12.19 12.26	**
1,4-Difluorobenzene	540-36-3	89	%	70-130	09.12.19 12.26	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-003	Date Collected:	09.09.19 15.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.12.19 12.50	Basis:	Wet Weight
Seq Number:	3101312			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**47600**	250	mg/kg	09.13.19 08.41		50

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.10.19 15.30	Basis:	Wet Weight
Seq Number:	3101187			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**583**	49.8	mg/kg	09.11.19 22.00		1
Diesel Range Organics (DRO)	C10C28DRO	**4200**	49.8	mg/kg	09.11.19 22.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**418**	49.8	mg/kg	09.11.19 22.00		1
Total TPH	PHC635	**5200**	49.8	mg/kg	09.11.19 22.00		1
Total GRO-DRO	PHC628	**4780**	49.8	mg/kg	09.11.19 22.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	09.11.19 22.00	
o-Terphenyl	84-15-1	129	%	70-135	09.11.19 22.00	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-003	Date Collected:	09.09.19 15.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.11.19 12.30	Basis:	Wet Weight
Seq Number:	3101274			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0260**	0.00202	mg/kg	09.12.19 12.46		1
Toluene	108-88-3	**0.376**	0.00202	mg/kg	09.12.19 12.46		1
Ethylbenzene	100-41-4	**0.223**	0.00202	mg/kg	09.12.19 12.46		1
m,p-Xylenes	179601-23-1	**11.8**	0.202	mg/kg	09.12.19 05.50	D	50
o-Xylene	95-47-6	**0.377**	0.00202	mg/kg	09.12.19 12.46		1
Total Xylenes	1330-20-7	**12.2**	0.00202	mg/kg	09.12.19 05.50		50
Total BTEX		**12.8**	0.00202	mg/kg	09.12.19 05.50		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	218	%	70-130	09.12.19 12.46	**
1,4-Difluorobenzene	540-36-3	89	%	70-130	09.12.19 12.46	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-004	Date Collected:	09.09.19 15.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.12.19 12.50	Basis:	Wet Weight
Seq Number:	3101312			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5730**	50.2	mg/kg	09.13.19 08.48		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.10.19 15.30	Basis:	Wet Weight
Seq Number:	3101187			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.11.19 22.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.11.19 22.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.11.19 22.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.11.19 22.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.11.19 22.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.11.19 22.19	
o-Terphenyl	84-15-1	88	%	70-135	09.11.19 22.19	

Certificate of Analytical Results 636393

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	09.10.19 08.05
Lab Sample Id:	636393-004	Date Collected:	09.09.19 15.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.11.19 12.30	Basis:	Wet Weight
Seq Number:	3101274			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.12.19 01.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.12.19 01.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.12.19 01.06	
4-Bromofluorobenzene	460-00-4	129	%	70-130	09.12.19 01.06	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 636393

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101312 Matrix: Solid Date Prep: 09.12.19
MB Sample Id: 7686080-1-BLK LCS Sample Id: 7686080-1-BKS LCSD Sample Id: 7686080-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	264	106	263	105	90-110	0	20	mg/kg	09.12.19 13:04	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101312 Matrix: Soil Date Prep: 09.12.19
Parent Sample Id: 636442-006 MS Sample Id: 636442-006 S MSD Sample Id: 636442-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.64	250	266	106	266	106	90-110	0	20	mg/kg	09.12.19 13:23	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101312 Matrix: Soil Date Prep: 09.12.19
Parent Sample Id: 636453-001 MS Sample Id: 636453-001 S MSD Sample Id: 636453-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.95	250	265	104	265	104	90-110	0	20	mg/kg	09.12.19 14:54	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3101187 Matrix: Solid Date Prep: 09.10.19
MB Sample Id: 7685904-1-BLK LCS Sample Id: 7685904-1-BKS LCSD Sample Id: 7685904-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1000	100	1020	102	70-135	2	20	mg/kg	09.11.19 17:14	
Diesel Range Organics (DRO)	<15.0	1000	944	94	949	95	70-135	1	20	mg/kg	09.11.19 17:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		116		114		70-135	%	09.11.19 17:14
o-Terphenyl	96		96		102		70-135	%	09.11.19 17:14

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

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

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

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

QC Summary 636393

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101320 — Matrix: Solid — Date Prep: 09.12.19
MB Sample Id: 7686058-1-BLK — LCS Sample Id: 7686058-1-BKS — LCSD Sample Id: 7686058-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1000	100	999	100	70-135	0	20	mg/kg	09.12.19 12:06	
Diesel Range Organics (DRO)	<15.0	1000	907	91	922	92	70-135	2	20	mg/kg	09.12.19 12:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		114		111		70-135	%	09.12.19 12:06
o-Terphenyl	94		120		97		70-135	%	09.12.19 12:06

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101187 — Matrix: Soil — Date Prep: 09.10.19
Parent Sample Id: 636383-132 — MS Sample Id: 636383-132 S — MSD Sample Id: 636383-132 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)	16.8	996	1010	100	1020	100	70-135	1	20	mg/kg	09.11.19 18:11	
Diesel Range Organics (DRO)	<14.9	996	959	96	958	96	70-135	0	20	mg/kg	09.11.19 18:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		114		70-135	%	09.11.19 18:11
o-Terphenyl	95		95		70-135	%	09.11.19 18:11

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3101320 — Matrix: Soil — Date Prep: 09.12.19
Parent Sample Id: 636393-001 — MS Sample Id: 636393-001 S — MSD Sample Id: 636393-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	930	93	929	93	70-135	0	20	mg/kg	09.12.19 13:06	
Diesel Range Organics (DRO)	<15.0	998	954	96	972	97	70-135	2	20	mg/kg	09.12.19 13:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		120		70-135	%	09.12.19 13:06
o-Terphenyl	114		91		70-135	%	09.12.19 13:06

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

QC Summary 636393

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3101274 Matrix: Solid Date Prep: 09.11.19

MB Sample Id: 7685959-1-BLK LCS Sample Id: 7685959-1-BKS LCSD Sample Id: 7685959-1-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	0.0974	97	0.0989	99	70-130	2	35	mg/kg	09.12.19 10:05	
Toluene	<0.00200	0.100	0.0988	99	0.100	100	70-130	1	35	mg/kg	09.12.19 10:05	
Ethylbenzene	<0.00200	0.100	0.120	120	0.121	121	70-130	1	35	mg/kg	09.12.19 10:05	
m,p-Xylenes	<0.00400	0.200	0.245	123	0.249	125	70-130	2	35	mg/kg	09.12.19 10:05	
o-Xylene	<0.00200	0.100	0.116	116	0.121	121	70-130	4	35	mg/kg	09.12.19 10:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		98		102		70-130	%	09.12.19 10:05
4-Bromofluorobenzene	103		115		125		70-130	%	09.12.19 10:05

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3101274 Matrix: Soil Date Prep: 09.11.19

Parent Sample Id: 636393-001 MS Sample Id: 636393-001 S MSD Sample Id: 636393-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.00708	0.0992	0.0557	49	0.0612	54	70-130	9	35	mg/kg	09.12.19 10:45	X
Toluene	0.00640	0.0992	0.0539	48	0.0637	57	70-130	17	35	mg/kg	09.12.19 10:45	X
Ethylbenzene	<0.00198	0.0992	0.0493	50	0.0595	60	70-130	19	35	mg/kg	09.12.19 10:45	X
m,p-Xylenes	<0.00397	0.198	0.103	52	0.120	60	70-130	15	35	mg/kg	09.12.19 10:45	X
o-Xylene	<0.00198	0.0992	0.0503	51	0.0570	57	70-130	12	35	mg/kg	09.12.19 10:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	09.12.19 10:45
4-Bromofluorobenzene	116		116		70-130	%	09.12.19 10:45

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 20326393

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@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:	Longview Federal 12-15H	Turn Around	
Project Number:	34819045	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	4.8	Thermometer ID	TNM007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	4

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	09/09/2019	15:00	0.5'	1	X	X	X
SS02	S		15:10	0.5'	1	X	X	X
SS03	S		15:20	0.5'	1	X	X	X
SS04	S		15:30	0.5'	1	X	X	X

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			805 · 9·10·19	2		09-10-19 8:05
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **47703**

Date/Time: 09/10/19 10:20
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776204785540

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636393-001	S	SS01	09/09/19 15:00	SW8015MOD_NM	TPH by SW8015 Mod	09/16/19	09/23/19	JKR	GRO-DRO PHCC10C28 PI	
636393-001	S	SS01	09/09/19 15:00	SW8021B	BTEX by EPA 8021B	09/16/19	09/23/19	JKR	BR4FBZ BZ BZME EBZ X	
636393-001	S	SS01	09/09/19 15:00	E300_CL	Chloride by EPA 300	09/16/19	03/07/20	JKR	CL	
636393-002	S	SS02	09/09/19 15:10	SW8021B	BTEX by EPA 8021B	09/16/19	09/23/19	JKR	BR4FBZ BZ BZME EBZ X	
636393-002	S	SS02	09/09/19 15:10	SW8015MOD_NM	TPH by SW8015 Mod	09/16/19	09/23/19	JKR	GRO-DRO PHCC10C28 PI	
636393-002	S	SS02	09/09/19 15:10	E300_CL	Chloride by EPA 300	09/16/19	03/07/20	JKR	CL	
636393-003	S	SS03	09/09/19 15:20	SW8021B	BTEX by EPA 8021B	09/16/19	09/23/19	JKR	BR4FBZ BZ BZME EBZ X	
636393-003	S	SS03	09/09/19 15:20	SW8015MOD_NM	TPH by SW8015 Mod	09/16/19	09/23/19	JKR	GRO-DRO PHCC10C28 PI	
636393-003	S	SS03	09/09/19 15:20	E300_CL	Chloride by EPA 300	09/16/19	03/07/20	JKR	CL	
636393-004	S	SS04	09/09/19 15:30	SW8021B	BTEX by EPA 8021B	09/16/19	09/23/19	JKR	BR4FBZ BZ BZME EBZ X	
636393-004	S	SS04	09/09/19 15:30	E300_CL	Chloride by EPA 300	09/16/19	03/07/20	JKR	CL	
636393-004	S	SS04	09/09/19 15:30	SW8015MOD_NM	TPH by SW8015 Mod	09/16/19	09/23/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 09/10/2019

Received By: Brianna Teel

Date Received: 09/11/2019 12:55

Cooler Temperature: 2.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 47703

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

Sent By: Elizabeth McClellan **Date Sent:** 09/10/2019 10:20 AM

Received By: Brianna Teel **Date Received:** 09/11/2019 12:55 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 09/11/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/10/2019 08:05:00 AM

Work Order #: 636393

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 09/10/2019

Checklist reviewed by: Jessica Kramer Date: 09/10/2019

Jessica Kramer

Analytical Report 636927

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 12-15

034819045

06.02.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06.02.2020

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

Reference: XENCO Report No(s): **636927**
Longview Federal 12-15
Project Address:

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) 636927. 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. 636927 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 636927

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	09.10.2019 11:30	2 ft	636927-001
PH01A	S	09.10.2019 11:45	6 ft	636927-002
PH01B	S	09.10.2019 12:00	10 ft	636927-003
PH02	S	09.10.2019 12:20	2 ft	636927-004
PH02A	S	09.10.2019 13:50	10 ft	636927-005
PH03	S	09.12.2019 10:00	2 ft	636927-006
PH03A	S	09.12.2019 10:15	6 ft	636927-007
PH04	S	09.12.2019 10:45	2 ft	636927-008
PH04A	S	09.12.2019 10:55	4 ft	636927-009

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15

Project ID: *034819045*
Work Order Number(s): *636927*

Report Date: *06.02.2020*
Date Received: *09.13.2019*

Sample receipt non conformances and comments:

V1.001 Revision (client email) changed sample depth for PH03A from 5' to 6' JK 06/02/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101626 Chloride by EPA 300

Lab Sample ID 636927-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 636927-001, -002, -003, -004, -005, -006, -007, -008, -009.

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

Batch: LBA-3101634 BTEX by EPA 8021B

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

Certificate of Analysis Summary 636927

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15

Project Id: 034819045
Contact: Chris McKisson
Project Location:

Date Received in Lab: Fri 09.13.2019 14:53
Report Date: 06.02.2020 08:44
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	636927-001		636927-002		636927-003		636927-004		636927-005		636927-006	
	Field Id:	PH01		PH01A		PH01B		PH02		PH02A		PH03	
	Depth:	2- ft		6- ft		10- ft		2- ft		10- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	09.10.2019 11:30		09.10.2019 11:45		09.10.2019 12:00		09.10.2019 12:20		09.10.2019 13:50		09.12.2019 10:00	
BTEX by EPA 8021B	***Extracted:***	09.16.2019 10:00						09.16.2019 10:00		09.16.2019 10:00		09.16.2019 10:00	
	Analyzed:	09.16.2019 17:42						09.16.2019 22:57		09.16.2019 22:37		09.16.2019 21:38	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00101	0.00101					0.00837	0.00101	<0.000990	0.000990	<0.00101	0.00101
Toluene		<0.00101	0.00101					0.137	0.00101	<0.000990	0.000990	0.0323	0.00101
Ethylbenzene		<0.00101	0.00101					0.158	0.00101	<0.000990	0.000990	0.0448	0.00101
m,p-Xylenes		<0.00201	0.00201					0.787	0.00201	0.00691	0.00198	0.292	0.00202
o-Xylene		<0.00101	0.00101					0.320	0.00101	0.00356	0.000990	0.133	0.00101
Total Xylenes		<0.00101	0.00101					1.11	0.00101	0.0105	0.000990	0.425	0.00101
Total BTEX		<0.00101	0.00101					1.41	0.00101	0.0105	0.000990	0.502	0.00101
Chloride by EPA 300	***Extracted:***	09.16.2019 08:09		09.16.2019 08:09		09.16.2019 08:09		09.16.2019 08:09		09.16.2019 08:09		09.16.2019 08:09	
	Analyzed:	09.16.2019 16:13		09.16.2019 16:20		09.16.2019 16:26		09.16.2019 16:33		09.16.2019 16:39		09.16.2019 16:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		16100	1010	16400	1010	105	10.1	17900	1010	2100	49.7	982	50.4
TPH by SW8015 Mod	***Extracted:***	09.16.2019 11:00						09.16.2019 11:00		09.16.2019 11:00		09.16.2019 11:00	
	Analyzed:	09.17.2019 04:11						09.17.2019 04:31		09.17.2019 04:51		09.17.2019 05:11	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<25.1	25.1					154	25.1	<25.0	25.0	<24.9	24.9
Diesel Range Organics (DRO)		<25.1	25.1					1520	25.1	103	25.0	206	24.9
Motor Oil Range Hydrocarbons (MRO)		<25.1	25.1					<25.1	25.1	<25.0	25.0	<24.9	24.9
Total TPH		<25.1	25.1					1670	25.1	103	25.0	206	24.9
Total GRO-DRO		<25.1	25.1					1670	25.1	103	25.0	206	24.9

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

Jessica Kramer
Project Manager

Certificate of Analysis Summary 636927

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15

Project Id: 034819045
Contact: Chris McKisson
Project Location:

Date Received in Lab: Fri 09.13.2019 14:53
Report Date: 06.02.2020 08:44
Project Manager: Jessica Kramer

Analysis Requested												
	Lab Id:	636927-007		636927-008		636927-009						
	Field Id:	PH03A		PH04		PH04A						
	Depth:	6- ft		2- ft		4- ft						
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	09.12.2019 10:15		09.12.2019 10:45		09.12.2019 10:55						
BTEX by EPA 8021B	***Extracted:***			09.16.2019 10:00								
	Analyzed:			09.16.2019 21:19								
	Units/RL:			mg/kg	RL							
Benzene				<0.00100	0.00100							
Toluene				<0.00100	0.00100							
Ethylbenzene				0.00108	0.00100							
m,p-Xylenes				<0.00201	0.00201							
o-Xylene				<0.00100	0.00100							
Total Xylenes				<0.00100	0.00100							
Total BTEX				0.00108	0.00100							
Chloride by EPA 300	***Extracted:***	09.16.2019 08:09		09.16.2019 08:09		09.16.2019 08:09						
	Analyzed:	09.16.2019 16:52		09.16.2019 16:58		09.16.2019 17:18						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Chloride		376	50.4	1460	50.0	395	19.9					
TPH by SW8015 Mod	***Extracted:***			09.16.2019 11:00								
	Analyzed:			09.17.2019 05:31								
	Units/RL:			mg/kg	RL							
Gasoline Range Hydrocarbons (GRO)				<25.1	25.1							
Diesel Range Organics (DRO)				<25.1	25.1							
Motor Oil Range Hydrocarbons (MRO)				<25.1	25.1							
Total TPH				<25.1	25.1							
Total GRO-DRO				<25.1	25.1							

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 636927

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-001	Date Collected:	09.10.2019 11:30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16100**	1010	mg/kg	09.16.2019 16:13	D	100

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 11:00	Basis:	Wet Weight
Seq Number:	3101631				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.17.2019 04:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.17.2019 04:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.17.2019 04:11	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.17.2019 04:11	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.17.2019 04:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	09.17.2019 04:11	
o-Terphenyl	84-15-1	90	%	70-135	09.17.2019 04:11	

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Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-001	Date Collected:	09.10.2019 11:30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 10:00	Basis:	Wet Weight
Seq Number:	3101634				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.16.2019 17:42	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1
Total BTEX		<0.00101	0.00101	mg/kg	09.16.2019 17:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	09.16.2019 17:42	
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.16.2019 17:42	

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Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-002	Date Collected:	09.10.2019 11:45	Sample Depth:	6 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16400**	1010	mg/kg	09.16.2019 16:20	D	100

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Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-003	Date Collected:	09.10.2019 12:00	Sample Depth:	10 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**105**	10.1	mg/kg	09.16.2019 16:26		1

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-004	Date Collected:	09.10.2019 12:20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17900**	1010	mg/kg	09.16.2019 16:33	D	100

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 11:00	Basis:	Wet Weight
Seq Number:	3101631				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**154**	25.1	mg/kg	09.17.2019 04:31		1
Diesel Range Organics (DRO)	C10C28DRO	**1520**	25.1	mg/kg	09.17.2019 04:31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.17.2019 04:31	U	1
Total TPH	PHC635	**1670**	25.1	mg/kg	09.17.2019 04:31		1
Total GRO-DRO	PHC628	**1670**	25.1	mg/kg	09.17.2019 04:31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	09.17.2019 04:31	
o-Terphenyl	84-15-1	120	%	70-135	09.17.2019 04:31	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-004	Date Collected:	09.10.2019 12:20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 10:00	Basis:	Wet Weight
Seq Number:	3101634				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00837**	0.00101	mg/kg	09.16.2019 22:57		1
Toluene	108-88-3	**0.137**	0.00101	mg/kg	09.16.2019 22:57		1
Ethylbenzene	100-41-4	**0.158**	0.00101	mg/kg	09.16.2019 22:57		1
m,p-Xylenes	179601-23-1	**0.787**	0.00201	mg/kg	09.16.2019 22:57		1
o-Xylene	95-47-6	**0.320**	0.00101	mg/kg	09.16.2019 22:57		1
Total Xylenes	1330-20-7	**1.11**	0.00101	mg/kg	09.16.2019 22:57		1
Total BTEX		**1.41**	0.00101	mg/kg	09.16.2019 22:57		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	09.16.2019 22:57	
1,4-Difluorobenzene	540-36-3	124	%	70-130	09.16.2019 22:57	

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Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-005	Date Collected:	09.10.2019 13:50	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2100**	49.7	mg/kg	09.16.2019 16:39		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 11:00	Basis:	Wet Weight
Seq Number:	3101631				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.17.2019 04:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	**103**	25.0	mg/kg	09.17.2019 04:51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.17.2019 04:51	U	1
Total TPH	PHC635	**103**	25.0	mg/kg	09.17.2019 04:51		1
Total GRO-DRO	PHC628	**103**	25.0	mg/kg	09.17.2019 04:51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	09.17.2019 04:51	
o-Terphenyl	84-15-1	111	%	70-135	09.17.2019 04:51	

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Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-005	Date Collected:	09.10.2019 13:50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 10:00	Basis:	Wet Weight
Seq Number:	3101634				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	09.16.2019 22:37	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	09.16.2019 22:37	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	09.16.2019 22:37	U	1
m,p-Xylenes	179601-23-1	**0.00691**	0.00198	mg/kg	09.16.2019 22:37		1
o-Xylene	95-47-6	**0.00356**	0.000990	mg/kg	09.16.2019 22:37		1
Total Xylenes	1330-20-7	**0.0105**	0.000990	mg/kg	09.16.2019 22:37		1
Total BTEX		**0.0105**	0.000990	mg/kg	09.16.2019 22:37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	128	%	70-130	09.16.2019 22:37	
1,4-Difluorobenzene	540-36-3	107	%	70-130	09.16.2019 22:37	

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Sample Id:	**PH03**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-006	Date Collected:	09.12.2019 10:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**982**	50.4	mg/kg	09.16.2019 16:46		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 11:00	Basis:	Wet Weight
Seq Number:	3101631				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.17.2019 05:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**206**	24.9	mg/kg	09.17.2019 05:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.17.2019 05:11	U	1
Total TPH	PHC635	**206**	24.9	mg/kg	09.17.2019 05:11		1
Total GRO-DRO	PHC628	**206**	24.9	mg/kg	09.17.2019 05:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	09.17.2019 05:11	
o-Terphenyl	84-15-1	109	%	70-135	09.17.2019 05:11	

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Sample Id:	**PH03**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-006	Date Collected:	09.12.2019 10:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 10:00	Basis:	Wet Weight
Seq Number:	3101634				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	09.16.2019 21:38	U	1
Toluene	108-88-3	**0.0323**	0.00101	mg/kg	09.16.2019 21:38		1
Ethylbenzene	100-41-4	**0.0448**	0.00101	mg/kg	09.16.2019 21:38		1
m,p-Xylenes	179601-23-1	**0.292**	0.00202	mg/kg	09.16.2019 21:38		1
o-Xylene	95-47-6	**0.133**	0.00101	mg/kg	09.16.2019 21:38		1
Total Xylenes	1330-20-7	**0.425**	0.00101	mg/kg	09.16.2019 21:38		1
Total BTEX		**0.502**	0.00101	mg/kg	09.16.2019 21:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	09.16.2019 21:38	
1,4-Difluorobenzene	540-36-3	111	%	70-130	09.16.2019 21:38	

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Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-007	Date Collected:	09.12.2019 10:15	Sample Depth:	6 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**376**	50.4	mg/kg	09.16.2019 16:52		5

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-008	Date Collected:	09.12.2019 10:45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1460**	50.0	mg/kg	09.16.2019 16:58		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 11:00	Basis:	Wet Weight
Seq Number:	3101631				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.17.2019 05:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.17.2019 05:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.17.2019 05:31	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.17.2019 05:31	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.17.2019 05:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	09.17.2019 05:31	
o-Terphenyl	84-15-1	93	%	70-135	09.17.2019 05:31	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-008	Date Collected:	09.12.2019 10:45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.16.2019 10:00	Basis:	Wet Weight
Seq Number:	3101634				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.16.2019 21:19	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.16.2019 21:19	U	1
Ethylbenzene	100-41-4	**0.00108**	0.00100	mg/kg	09.16.2019 21:19		1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.16.2019 21:19	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.16.2019 21:19	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.16.2019 21:19	U	1
Total BTEX		**0.00108**	0.00100	mg/kg	09.16.2019 21:19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.16.2019 21:19	
4-Bromofluorobenzene	460-00-4	102	%	70-130	09.16.2019 21:19	

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	09.13.2019 14:53
Lab Sample Id:	636927-009	Date Collected:	09.12.2019 10:55	Sample Depth:	4 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.2019 08:09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**395**	19.9	mg/kg	09.16.2019 17:18		2

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 636927

LT Environmental, Inc.

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Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.2019
MB Sample Id: 7686203-1-BLK LCS Sample Id: 7686203-1-BKS LCSD Sample Id: 7686203-1-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	267	107	268	107	90-110	0	20	mg/kg	09.16.2019 14:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.2019
Parent Sample Id: 636900-023 MS Sample Id: 636900-023 S MSD Sample Id: 636900-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.0	200	244	104	265	115	90-110	8	20	mg/kg	09.16.2019 15:13	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.2019
Parent Sample Id: 636927-009 MS Sample Id: 636927-009 S MSD Sample Id: 636927-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	395	403	935	134	948	138	90-110	1	20	mg/kg	09.16.2019 17:24	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3101631 Matrix: Solid Date Prep: 09.16.2019
MB Sample Id: 7686319-1-BLK LCS Sample Id: 7686319-1-BKS LCSD Sample Id: 7686319-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<25.0	1000	979	98	982	98	70-135	0	35	mg/kg	09.17.2019 01:49	
Diesel Range Organics (DRO)	<25.0	1000	908	91	903	90	70-135	1	35	mg/kg	09.17.2019 01:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		125		125		70-135	%	09.17.2019 01:49
o-Terphenyl	100		105		102		70-135	%	09.17.2019 01:49

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3101631 Matrix: Soil Date Prep: 09.16.2019
Parent Sample Id: 636900-025 MS Sample Id: 636900-025 S MSD Sample Id: 636900-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<25.0	998	1090	109	1100	110	70-135	1	35	mg/kg	09.17.2019 02:49	
Diesel Range Organics (DRO)	79.9	998	1080	100	1130	105	70-135	5	35	mg/kg	09.17.2019 02:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		127		70-135	%	09.17.2019 02:49
o-Terphenyl	113		107		70-135	%	09.17.2019 02:49

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

QC Summary 636927

LT Environmental, Inc.

Longview Federal 12-15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3101634 Matrix: Solid Date Prep: 09.16.2019

MB Sample Id: 7686327-1-BLK LCS Sample Id: 7686327-1-BKS LCSD Sample Id: 7686327-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0894	89	0.0901	90	70-130	1	35	mg/kg	09.16.2019 11:24	
Toluene	<0.00100	0.100	0.0920	92	0.0921	92	70-130	0	35	mg/kg	09.16.2019 11:24	
Ethylbenzene	<0.00100	0.100	0.114	114	0.113	113	71-129	1	35	mg/kg	09.16.2019 11:24	
m,p-Xylenes	<0.00200	0.200	0.233	117	0.230	115	70-135	1	35	mg/kg	09.16.2019 11:24	
o-Xylene	<0.00100	0.100	0.116	116	0.115	115	71-133	1	35	mg/kg	09.16.2019 11:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		102		102		70-130	%	09.16.2019 11:24
4-Bromofluorobenzene	109		122		117		70-130	%	09.16.2019 11:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3101634 Matrix: Soil Date Prep: 09.16.2019

Parent Sample Id: 636927-001 MS Sample Id: 636927-001 S MSD Sample Id: 636927-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0920	91	0.0900	90	70-130	2	35	mg/kg	09.16.2019 18:02	
Toluene	<0.00101	0.101	0.0911	90	0.0874	87	70-130	4	35	mg/kg	09.16.2019 18:02	
Ethylbenzene	<0.00101	0.101	0.110	109	0.107	107	71-129	3	35	mg/kg	09.16.2019 18:02	
m,p-Xylenes	<0.00202	0.202	0.226	112	0.219	110	70-135	3	35	mg/kg	09.16.2019 18:02	
o-Xylene	<0.00101	0.101	0.115	114	0.113	113	71-133	2	35	mg/kg	09.16.2019 18:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		70-130	%	09.16.2019 18:02
4-Bromofluorobenzene	121		120		70-130	%	09.16.2019 18:02

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 631927

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@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:	Longview Federal 12-15H	Turn Around	
Project Number:	034819045	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4.1	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	9

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	09/10/2019	11:30	2'	1	X	X	X
PH01A	S		11:45	6'	1			X
PH01B	S		12:00	10'	1			X
PH02	S		12:20	2'	1	X	X	X
PH02A	S		13:50	10'	1	X	X	X
PH03	S	09/12/2019	10:00	2'	1	X	X	X
PH03A	S		10:15	6'	1			X
PH04	S		10:45	2'	1	X	X	X
PH04A	S		10:55	4'	1			X

Work Order Notes

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

Sample Comments

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		14:53 9/13/19	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/13/2019 02:53:00 PM

Work Order #: 636927

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 09/16/2019

Checklist reviewed by: Jessica Kramer Date: 09/16/2019

Jessica Kramer

Analytical Report 646008

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 12-15H

034819045

13-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

13-DEC-19

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

Reference: XENCO Report No(s): **646008**
Longview Federal 12-15H
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) 646008. 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. 646008 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 646008

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH05	S	12-11-19 09:11	1 ft	646008-001
PH05A	S	12-11-19 10:15	4 ft	646008-002
PH06	S	12-11-19 11:38	2 ft	646008-003
PH06A	S	12-11-19 13:46	4 ft	646008-004
PH07	S	12-11-19 14:10	1 ft	646008-005
PH07A	S	12-11-19 14:35	4 ft	646008-006
PH08	S	12-11-19 15:10	1 ft	646008-007
PH08A	S	12-11-19 15:25	4 ft	646008-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15H

Project ID: *034819045*
Work Order Number(s): *646008*

Report Date: *13-DEC-19*
Date Received: *12/11/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3110350 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110354 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 646008

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Wed Dec-11-19 04:16 pm
Report Date: 13-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	646008-001		646008-002		646008-003		646008-004		646008-005		646008-006	
	Field Id:	PH05		PH05A		PH06		PH06A		PH07		PH07A	
	Depth:	1- ft		4- ft		2- ft		4- ft		1- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-11-19 09:11		Dec-11-19 10:15		Dec-11-19 11:38		Dec-11-19 13:46		Dec-11-19 14:10		Dec-11-19 14:35	
BTEX by EPA 8021B	***Extracted:***	Dec-12-19 10:00		Dec-12-19 10:00		Dec-12-19 12:33		Dec-12-19 12:33		Dec-12-19 12:33		Dec-12-19 12:33	
	Analyzed:	Dec-12-19 20:11		Dec-12-19 20:28		Dec-12-19 14:37		Dec-12-19 14:56		Dec-12-19 15:15		Dec-12-19 15:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398	<0.00398	0.00398	<0.00398	0.00398	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
Xylenes, Total		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00202	0.00202	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	Dec-12-19 11:35		Dec-12-19 11:35		Dec-12-19 11:35		Dec-12-19 11:35		Dec-12-19 11:35		Dec-12-19 11:35	
	Analyzed:	Dec-12-19 14:31		Dec-12-19 14:37		Dec-12-19 14:44		Dec-12-19 14:50		Dec-12-19 14:56		Dec-12-19 15:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		370	10.1	52.3	10.0	176	9.94	95.3	9.98	220	9.92	176	9.92
TPH by SW8015 Mod	***Extracted:***	Dec-12-19 11:30		Dec-12-19 11:30		Dec-12-19 13:00		Dec-12-19 13:00		Dec-12-19 13:00		Dec-12-19 13:00	
	Analyzed:	Dec-13-19 08:50		Dec-12-19 18:04		Dec-12-19 18:44		Dec-12-19 19:23		Dec-12-19 19:23		Dec-12-19 19:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.1	50.1	<50.2	50.2	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.1	50.1	<50.2	50.2	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.1	50.1	<50.2	50.2	<49.9	49.9
Total GRO-DRO		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.1	50.1	<50.2	50.2	<49.9	49.9
Total TPH		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.1	50.1	<50.2	50.2	<49.9	49.9

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 646008

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Wed Dec-11-19 04:16 pm
Report Date: 13-DEC-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	646008-007		646008-008					
	Field Id:	PH08		PH08A					
	Depth:	1- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Dec-11-19 15:10		Dec-11-19 15:25					
BTEX by EPA 8021B	***Extracted:***	Dec-12-19 12:33		Dec-12-19 12:33					
	Analyzed:	Dec-12-19 15:54		Dec-12-19 16:13					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00198	0.00198				
Toluene		<0.00198	0.00198	<0.00198	0.00198				
Ethylbenzene		<0.00198	0.00198	<0.00198	0.00198				
m,p-Xylenes		<0.00396	0.00396	<0.00396	0.00396				
o-Xylene		<0.00198	0.00198	<0.00198	0.00198				
Xylenes, Total		<0.00198	0.00198	<0.00198	0.00198				
Total BTEX		<0.00198	0.00198	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Dec-12-19 11:35		Dec-12-19 11:35					
	Analyzed:	Dec-12-19 15:09		Dec-12-19 15:15					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		207	9.88	58.0	9.82				
TPH by SW8015 Mod	***Extracted:***	Dec-12-19 13:00		Dec-12-19 13:00					
	Analyzed:	Dec-12-19 19:43		Dec-12-19 20:03					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0				
Total GRO-DRO		<50.0	50.0	<50.0	50.0				
Total TPH		<50.0	50.0	<50.0	50.0				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 646008

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-001	Date Collected:	12.11.19 09.11	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**370**	10.1	mg/kg	12.12.19 14.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 11.30	Basis:	Wet Weight
Seq Number:	3110368				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.13.19 08.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.13.19 08.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.13.19 08.50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.13.19 08.50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.13.19 08.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.13.19 08.50	
o-Terphenyl	84-15-1	113	%	70-135	12.13.19 08.50	

Certificate of Analytical Results 646008

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-001	Date Collected:	12.11.19 09.11	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 10.00	Basis:	Wet Weight
Seq Number:	3110350				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.12.19 20.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.12.19 20.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.12.19 20.11	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.12.19 20.11	

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LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-002	Date Collected:	12.11.19 10.15	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.3**	10.0	mg/kg	12.12.19 14.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 11.30	Basis:	Wet Weight
Seq Number:	3110368				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.19 18.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.19 18.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.19 18.04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.12.19 18.04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.12.19 18.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.12.19 18.04	
o-Terphenyl	84-15-1	108	%	70-135	12.12.19 18.04	

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LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-002	Date Collected:	12.11.19 10.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 10.00	Basis:	Wet Weight
Seq Number:	3110350				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 20.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.12.19 20.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.12.19 20.28	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.12.19 20.28	

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LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-003	Date Collected:	12.11.19 11.38	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**176**	9.94	mg/kg	12.12.19 14.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.12.19 18.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.12.19 18.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.12.19 18.44	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.12.19 18.44	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.12.19 18.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	12.12.19 18.44	
o-Terphenyl	84-15-1	124	%	70-135	12.12.19 18.44	

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LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-003	Date Collected:	12.11.19 11.38	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 14.37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.12.19 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.12.19 14.37	
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.12.19 14.37	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-004	Date Collected:	12.11.19 13.46	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.3**	9.98	mg/kg	12.12.19 14.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.19 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.19 19.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.19 19.23	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.12.19 19.23	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.12.19 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.12.19 19.23	
o-Terphenyl	84-15-1	110	%	70-135	12.12.19 19.23	

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LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-004	Date Collected:	12.11.19 13.46	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 14.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.12.19 14.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.12.19 14.56	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.12.19 14.56	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH07**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-005	Date Collected:	12.11.19 14.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**220**	9.92	mg/kg	12.12.19 14.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.12.19 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.12.19 19.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.19 19.23	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.12.19 19.23	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.12.19 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.12.19 19.23	
o-Terphenyl	84-15-1	116	%	70-135	12.12.19 19.23	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH07**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-005	Date Collected:	12.11.19 14.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.12.19 15.15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.12.19 15.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.12.19 15.15	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.12.19 15.15	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-006	Date Collected:	12.11.19 14.35	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**176**	9.92	mg/kg	12.12.19 15.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.19 19.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.19 19.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.19 19.43	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.12.19 19.43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.12.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.12.19 19.43	
o-Terphenyl	84-15-1	111	%	70-135	12.12.19 19.43	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-006	Date Collected:	12.11.19 14.35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 15.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.12.19 15.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.12.19 15.34	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.12.19 15.34	

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Sample Id:	**PH08**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-007	Date Collected:	12.11.19 15.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**207**	9.88	mg/kg	12.12.19 15.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.19 19.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.19 19.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.19 19.43	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.12.19 19.43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.12.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.12.19 19.43	
o-Terphenyl	84-15-1	111	%	70-135	12.12.19 19.43	

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Sample Id:	**PH08**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-007	Date Collected:	12.11.19 15.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.12.19 15.54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.12.19 15.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.12.19 15.54	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.12.19 15.54	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-008	Date Collected:	12.11.19 15.25	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 11.35	Basis:	Wet Weight
Seq Number:	3110315				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.0**	9.82	mg/kg	12.12.19 15.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.12.19 13.00	Basis:	Wet Weight
Seq Number:	3110382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.19 20.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.19 20.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.19 20.03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.12.19 20.03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.12.19 20.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.12.19 20.03	
o-Terphenyl	84-15-1	111	%	70-135	12.12.19 20.03	

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Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	12.11.19 16.16
Lab Sample Id:	646008-008	Date Collected:	12.11.19 15.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.12.19 12.33	Basis:	Wet Weight
Seq Number:	3110354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.12.19 16.13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.12.19 16.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.12.19 16.13	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.12.19 16.13	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 646008

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110315 Matrix: Solid Date Prep: 12.12.19
MB Sample Id: 7692282-1-BLK LCS Sample Id: 7692282-1-BKS LCSD Sample Id: 7692282-1-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	264	106	90-110	0	20	mg/kg	12.12.19 12:14	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110315 Matrix: Soil Date Prep: 12.12.19
Parent Sample Id: 646053-001 MS Sample Id: 646053-001 S MSD Sample Id: 646053-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	527	202	745	108	738	106	90-110	1	20	mg/kg	12.12.19 12:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110315 Matrix: Soil Date Prep: 12.12.19
Parent Sample Id: 646053-011 MS Sample Id: 646053-011 S MSD Sample Id: 646053-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.83	202	209	101	208	102	90-110	0	20	mg/kg	12.12.19 13:59	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110368 Matrix: Solid Date Prep: 12.12.19
MB Sample Id: 7692325-1-BLK LCS Sample Id: 7692325-1-BKS LCSD Sample Id: 7692325-1-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	1040	104	981	98	70-135	6	35	mg/kg	12.12.19 12:22	
Diesel Range Organics (DRO)	<50.0	1000	864	86	1040	104	70-135	18	35	mg/kg	12.12.19 12:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		105		119		70-135	%	12.12.19 12:22
o-Terphenyl	107		99		119		70-135	%	12.12.19 12:22

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

QC Summary 646008

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110382 — Matrix: Solid — Date Prep: 12.12.19
MB Sample Id: 7692329-1-BLK — LCS Sample Id: 7692329-1-BKS — LCSD Sample Id: 7692329-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	998	100	70-135	2	35	mg/kg	12.12.19 18:24	
Diesel Range Organics (DRO)	<50.0	1000	861	86	993	99	70-135	14	35	mg/kg	12.12.19 18:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		104		118		70-135	%	12.12.19 18:24
o-Terphenyl	106		99		113		70-135	%	12.12.19 18:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110368 — Matrix: Solid — Date Prep: 12.12.19
MB Sample Id: 7692325-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.12.19 12:02	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110382 — Matrix: Solid — Date Prep: 12.12.19
MB Sample Id: 7692329-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.12.19 18:24	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3110368 — Matrix: Soil — Date Prep: 12.12.19
Parent Sample Id: 646008-001 — MS Sample Id: 646008-001 S — MSD Sample Id: 646008-001 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	980	98	1060	106	70-135	8	35	mg/kg	12.13.19 08:13	
Diesel Range Organics (DRO)	<50.1	1000	880	88	1130	113	70-135	25	35	mg/kg	12.13.19 08:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		128		70-135	%	12.13.19 08:13
o-Terphenyl	99		120		70-135	%	12.13.19 08:13

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

QC Summary 646008

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P

Seq Number: 3110382 Matrix: Soil Date Prep: 12.12.19

Parent Sample Id: 646008-003 MS Sample Id: 646008-003 S MSD Sample Id: 646008-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	1080	108	1020	102	70-135	6	35	mg/kg	12.12.19 19:04	
Diesel Range Organics (DRO)	<49.8	996	1090	109	1050	105	70-135	4	35	mg/kg	12.12.19 19:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		127		70-135	%	12.12.19 19:04
o-Terphenyl	124		120		70-135	%	12.12.19 19:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3110350 Matrix: Solid Date Prep: 12.12.19

MB Sample Id: 7692258-1-BLK LCS Sample Id: 7692258-1-BKS LCSD Sample Id: 7692258-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	12.12.19 11:14	
Toluene	<0.00200	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	12.12.19 11:14	
Ethylbenzene	<0.00200	0.100	0.105	105	0.102	102	71-129	3	35	mg/kg	12.12.19 11:14	
m,p-Xylenes	<0.00400	0.200	0.218	109	0.212	106	70-135	3	35	mg/kg	12.12.19 11:14	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	12.12.19 11:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		101		70-130	%	12.12.19 11:14
4-Bromofluorobenzene	97		97		101		70-130	%	12.12.19 11:14

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3110354 Matrix: Solid Date Prep: 12.12.19

MB Sample Id: 7692312-1-BLK LCS Sample Id: 7692312-1-BKS LCSD Sample Id: 7692312-1-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	0.0903	90	0.0895	90	70-130	1	35	mg/kg	12.12.19 12:55	
Toluene	<0.00200	0.100	0.0926	93	0.0918	92	70-130	1	35	mg/kg	12.12.19 12:55	
Ethylbenzene	<0.000406	0.100	0.0925	93	0.0914	91	71-129	1	35	mg/kg	12.12.19 12:55	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.194	97	70-135	2	35	mg/kg	12.12.19 12:55	
o-Xylene	<0.00200	0.100	0.0989	99	0.0975	98	71-133	1	35	mg/kg	12.12.19 12:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		101		70-130	%	12.12.19 12:55
4-Bromofluorobenzene	110		116		117		70-130	%	12.12.19 12:55

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 646008

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3110350 Matrix: Soil Date Prep: 12.12.19

Parent Sample Id: 646036-006 MS Sample Id: 646036-006 S MSD Sample Id: 646036-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0401	2.00	2.15	108	1.52	79	70-130	34	35	mg/kg	12.12.19 22:47	
Toluene	0.0206	2.00	2.08	103	1.54	79	70-130	30	35	mg/kg	12.12.19 22:47	
Ethylbenzene	0.169	2.00	2.22	103	1.71	80	71-129	26	35	mg/kg	12.12.19 22:47	
m,p-Xylenes	0.612	4.01	5.48	121	3.94	86	70-135	33	35	mg/kg	12.12.19 22:47	
o-Xylene	0.160	2.00	2.63	124	2.21	106	71-133	17	35	mg/kg	12.12.19 22:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		97		70-130	%	12.12.19 22:47
4-Bromofluorobenzene	113		126		70-130	%	12.12.19 22:47

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3110354 Matrix: Soil Date Prep: 12.12.19

Parent Sample Id: 646008-003 MS Sample Id: 646008-003 S MSD Sample Id: 646008-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0854	86	0.100	101	70-130	16	35	mg/kg	12.12.19 13:34	
Toluene	<0.00198	0.0990	0.0875	88	0.103	104	70-130	16	35	mg/kg	12.12.19 13:34	
Ethylbenzene	<0.00198	0.0990	0.0862	87	0.102	103	71-129	17	35	mg/kg	12.12.19 13:34	
m,p-Xylenes	<0.00396	0.198	0.183	92	0.216	109	70-135	17	35	mg/kg	12.12.19 13:34	
o-Xylene	<0.00198	0.0990	0.0931	94	0.110	111	71-133	17	35	mg/kg	12.12.19 13:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		104		70-130	%	12.12.19 13:34
4-Bromofluorobenzene	115		122		70-130	%	12.12.19 13:34

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 1046008

Page 1 of 1

Project Manager:	Chris McKissen	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:	cmckissen@ltenv.com tabyers@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:	Longview Federal 12-15H	Turn Around	
Project Number:	032819045	Routine ☐	
Project Location	Rural Eddy County	Rush: 5 Day	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	(Yes) No	Wet Ice: (Yes) No
Temperature (°C):	1.0	Thermometer ID	T-NM-009
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	8

ANALYSIS REQUEST

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	PH05	S	12/11/19	0911	1'	1		X	X	X	
	PH05A	S	12/11/19	1015	4'	1		X	X	X	
	PH06	S	12/11/19	1138	2'	1		X	X	X	
	PH06A	S	12/11/19	1346	4'	1		X	X	X	
	PH07	S	12/11/19	1410	1'	1		X	X	X	
	PH07A	S	12/11/19	1435	4'	1		X	X	X	
	PH08	S	12/11/19	1510	1'	1		X	X	X	
	PH08A	S	12/11/19	1525	4'	1		X	X	X	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		12/11/19 16:11	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/11/2019 04:16:00 PM

Work Order #: 646008

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: 12/11/2019

Checklist reviewed by: Jessica Kramer Date: 12/13/2019

Analytical Report 646622

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 12-15H

034819045

18-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

18-DEC-19

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

Reference: XENCO Report No(s): **646622**
Longview Federal 12-15H
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) 646622. 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. 646622 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH09	S	12-12-19 08:45	2 ft	646622-001
PH09A	S	12-12-19 09:20	7 ft	646622-002
PH09B	S	12-12-19 09:40	13 ft	646622-003
PH10	S	12-12-19 09:58	1 ft	646622-004
PH10A	S	12-12-19 10:50	11 ft	646622-005
PH11	S	12-12-19 14:27	4 ft	646622-006
PH11A	S	12-12-19 15:00	12 ft	646622-007
PH12	S	12-12-19 15:48	8 ft	646622-008
PH12A	S	12-12-19 15:53	10 ft	646622-009
PH13	S	12-12-19 16:10	1 ft	646622-010
PH13A	S	12-12-19 16:35	10 ft	646622-011

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15H

Project ID: *034819045*
Work Order Number(s): *646622*

Report Date: *18-DEC-19*
Date Received: *12/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3110867 BTEX by EPA 8021B

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

Certificate of Analysis Summary 646622

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Tue Dec-17-19 11:00 am
Report Date: 18-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	646622-001		646622-002		646622-003		646622-004		646622-005		646622-006	
	Field Id:	PH09		PH09A		PH09B		PH10		PH10A		PH11	
	Depth:	2- ft		7- ft		13- ft		1- ft		11- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-12-19 08:45		Dec-12-19 09:20		Dec-12-19 09:40		Dec-12-19 09:58		Dec-12-19 10:50		Dec-12-19 14:27	
BTEX by EPA 8021B	***Extracted:***	Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55	
	Analyzed:	Dec-17-19 18:55		Dec-17-19 19:55		Dec-17-19 20:21		Dec-17-19 20:39		Dec-17-19 20:56		Dec-17-19 21:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00403	0.00403	<0.00404	0.00404
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
Xylenes, Total		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29	
	Analyzed:	Dec-17-19 19:10		Dec-17-19 19:16		Dec-17-19 19:35		Dec-17-19 19:41		Dec-17-19 19:48		Dec-17-19 19:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		17400	200	57.2	10.0	20.0	10.0	760	9.98	19.0	9.96	642	9.92
TPH by SW8015 Mod	***Extracted:***	Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00	
	Analyzed:	Dec-18-19 10:09		Dec-18-19 10:09		Dec-17-19 18:33		Dec-17-19 18:33		Dec-17-19 18:53		Dec-17-19 19:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.1	50.1
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	<50.0	50.0	60.5	50.0	<49.8	49.8	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.1	50.1
Total GRO-DRO		<50.1	50.1	<50.1	50.1	<50.0	50.0	60.5	50.0	<49.8	49.8	<50.1	50.1
Total TPH		<50.1	50.1	<50.1	50.1	<50.0	50.0	60.5	50.0	<49.8	49.8	<50.1	50.1

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 646622

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Tue Dec-17-19 11:00 am
Report Date: 18-DEC-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	646622-007		646622-008		646622-009		646622-010		646622-011	
	Field Id:	PH11A		PH12		PH12A		PH13		PH13A	
	Depth:	12- ft		8- ft		10- ft		1- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-12-19 15:00		Dec-12-19 15:48		Dec-12-19 15:53		Dec-12-19 16:10		Dec-12-19 16:35	
BTEX by EPA 8021B	Extracted:	Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55		Dec-17-19 14:55	
	Analyzed:	Dec-17-19 21:31		Dec-17-19 21:48		Dec-17-19 22:06		Dec-17-19 22:23		Dec-17-19 22:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398	<0.00398	0.00398	<0.00395	0.00395	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
Xylenes, Total		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199
Chloride by EPA 300	Extracted:	Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29		Dec-17-19 15:29	
	Analyzed:	Dec-17-19 20:00		Dec-17-19 20:06		Dec-17-19 20:25		Dec-17-19 20:31		Dec-17-19 20:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		383	10.0	217	9.94	521	9.98	19.0	9.92	<9.96	9.96
TPH by SW8015 Mod	Extracted:	Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00		Dec-17-19 15:00	
	Analyzed:	Dec-17-19 19:12		Dec-17-19 19:32		Dec-17-19 19:32		Dec-17-19 19:52		Dec-17-19 19:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0	<50.1	50.1	<50.1	50.1	<49.8	49.8
Diesel Range Organics (DRO)		<49.8	49.8	<50.0	50.0	<50.1	50.1	<50.1	50.1	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0	<50.1	50.1	<50.1	50.1	<49.8	49.8
Total GRO-DRO		<49.8	49.8	<50.0	50.0	<50.1	50.1	<50.1	50.1	<49.8	49.8
Total TPH		<49.8	49.8	<50.0	50.0	<50.1	50.1	<50.1	50.1	<49.8	49.8

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-001	Date Collected:	12.12.19 08.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17400**	200	mg/kg	12.17.19 19.10		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 10.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.18.19 10.09	
o-Terphenyl	84-15-1	125	%	70-135	12.18.19 10.09	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-001	Date Collected:	12.12.19 08.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.17.19 18.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.17.19 18.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.17.19 18.55	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.17.19 18.55	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-002	Date Collected:	12.12.19 09.20	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**57.2**	10.0	mg/kg	12.17.19 19.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.18.19 10.09	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.19 10.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	12.18.19 10.09	
o-Terphenyl	84-15-1	124	%	70-135	12.18.19 10.09	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-002	Date Collected:	12.12.19 09.20	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.19 19.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.19 19.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.19 19.55	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.17.19 19.55	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09B**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-003	Date Collected:	12.12.19 09.40	Sample Depth:	13 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.0**	10.0	mg/kg	12.17.19 19.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.17.19 18.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.17.19 18.33	
o-Terphenyl	84-15-1	130	%	70-135	12.17.19 18.33	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH09B**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-003	Date Collected:	12.12.19 09.40	Sample Depth:	13 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.17.19 20.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.17.19 20.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.17.19 20.21	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.19 20.21	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH10**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-004	Date Collected:	12.12.19 09.58	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**760**	9.98	mg/kg	12.17.19 19.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	**60.5**	50.0	mg/kg	12.17.19 18.33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.19 18.33	U	1
Total GRO-DRO	PHC628	**60.5**	50.0	mg/kg	12.17.19 18.33		1
Total TPH	PHC635	**60.5**	50.0	mg/kg	12.17.19 18.33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	12.17.19 18.33	
o-Terphenyl	84-15-1	132	%	70-135	12.17.19 18.33	

Certificate of Analytical Results 646622

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH10**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-004	Date Collected:	12.12.19 09.58	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.17.19 20.39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.17.19 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.17.19 20.39	
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.17.19 20.39	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH10A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-005	Date Collected:	12.12.19 10.50	Sample Depth:	11 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.0**	9.96	mg/kg	12.17.19 19.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.17.19 18.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.17.19 18.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.17.19 18.53	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.17.19 18.53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.17.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	12.17.19 18.53	
o-Terphenyl	84-15-1	135	%	70-135	12.17.19 18.53	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH10A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-005	Date Collected:	12.12.19 10.50	Sample Depth:	11 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.17.19 20.56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.17.19 20.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.17.19 20.56	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.17.19 20.56	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH11**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-006	Date Collected:	12.12.19 14.27	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**642**	9.92	mg/kg	12.17.19 19.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.19 19.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.19 19.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.19 19.12	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.17.19 19.12	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.17.19 19.12	
o-Terphenyl	84-15-1	126	%	70-135	12.17.19 19.12	

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Sample Id:	**PH11**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-006	Date Collected:	12.12.19 14.27	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.17.19 21.13	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.17.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.17.19 21.13	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.17.19 21.13	

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Sample Id:	**PH11A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-007	Date Collected:	12.12.19 15.00	Sample Depth:	12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**383**	10.0	mg/kg	12.17.19 20.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.17.19 19.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.17.19 19.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.17.19 19.12	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.17.19 19.12	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.17.19 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.17.19 19.12	
o-Terphenyl	84-15-1	120	%	70-135	12.17.19 19.12	

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Sample Id:	**PH11A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-007	Date Collected:	12.12.19 15.00	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.17.19 21.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.17.19 21.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.17.19 21.31	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.17.19 21.31	

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Sample Id:	**PH12**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-008	Date Collected:	12.12.19 15.48	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**217**	9.94	mg/kg	12.17.19 20.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.17.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.19 19.32	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.17.19 19.32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.17.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.17.19 19.32	
o-Terphenyl	84-15-1	128	%	70-135	12.17.19 19.32	

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Sample Id:	**PH12**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-008	Date Collected:	12.12.19 15.48	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.19 21.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.17.19 21.48	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.17.19 21.48	

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Sample Id:	**PH12A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-009	Date Collected:	12.12.19 15.53	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**521**	9.98	mg/kg	12.17.19 20.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.19 19.32	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.17.19 19.32	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.17.19 19.32	
o-Terphenyl	84-15-1	121	%	70-135	12.17.19 19.32	

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Sample Id:	**PH12A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-009	Date Collected:	12.12.19 15.53	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.19 22.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.19 22.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.17.19 22.06	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.17.19 22.06	

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Sample Id:	**PH13**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-010	Date Collected:	12.12.19 16.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.0**	9.92	mg/kg	12.17.19 20.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.19 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.19 19.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.19 19.52	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.17.19 19.52	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.19 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.17.19 19.52	
o-Terphenyl	84-15-1	128	%	70-135	12.17.19 19.52	

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Sample Id:	**PH13**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-010	Date Collected:	12.12.19 16.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	12.17.19 22.23	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.17.19 22.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.17.19 22.23	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.17.19 22.23	

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Sample Id:	**PH13A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-011	Date Collected:	12.12.19 16.35	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 15.29	Basis:	Wet Weight
Seq Number:	3110874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.17.19 20.38	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.17.19 15.00	Basis:	Wet Weight
Seq Number:	3110877				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.17.19 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.17.19 19.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.17.19 19.52	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.17.19 19.52	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.17.19 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.17.19 19.52	
o-Terphenyl	84-15-1	119	%	70-135	12.17.19 19.52	

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Sample Id:	**PH13A**	Matrix:	Soil	Date Received:	12.17.19 11.00
Lab Sample Id:	646622-011	Date Collected:	12.12.19 16.35	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.17.19 14.55	Basis:	Wet Weight
Seq Number:	3110867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.19 22.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.19 22.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.17.19 22.40	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.19 22.40	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 646622

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110874 Matrix: Solid Date Prep: 12.17.19
MB Sample Id: 7692648-1-BLK LCS Sample Id: 7692648-1-BKS LCSD Sample Id: 7692648-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	263	105	90-110	0	20	mg/kg	12.17.19 17:28	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110874 Matrix: Soil Date Prep: 12.17.19
Parent Sample Id: 646590-001 MS Sample Id: 646590-001 S MSD Sample Id: 646590-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	64.4	200	281	108	279	108	90-110	1	20	mg/kg	12.17.19 17:46	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3110874 Matrix: Soil Date Prep: 12.17.19
Parent Sample Id: 646622-002 MS Sample Id: 646622-002 S MSD Sample Id: 646622-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	57.2	199	276	110	276	109	90-110	0	20	mg/kg	12.17.19 19:23	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110877 Matrix: Solid Date Prep: 12.17.19
MB Sample Id: 7692669-1-BLK LCS Sample Id: 7692669-1-BKS LCSD Sample Id: 7692669-1-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	1110	111	1130	113	70-135	2	35	mg/kg	12.17.19 15:55	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1190	119	70-135	2	35	mg/kg	12.17.19 15:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		129		129		70-135	%	12.17.19 15:55
o-Terphenyl	130		130		132		70-135	%	12.17.19 15:55

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3110877 Matrix: Solid Date Prep: 12.17.19
MB Sample Id: 7692669-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.17.19 15:55	

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

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

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

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

QC Summary 646622

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3110877 | Matrix: Soil | Date Prep: 12.17.19
Parent Sample Id: 646590-006 | MS Sample Id: 646590-006 S | MSD Sample Id: 646590-006 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)	<50.1	1000	1030	103	858	86	70-135	18	35	mg/kg	12.17.19 16:35	
Diesel Range Organics (DRO)	<50.1	1000	890	89	759	76	70-135	16	35	mg/kg	12.17.19 16:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		100		70-135	%	12.17.19 16:35
o-Terphenyl	109		97		70-135	%	12.17.19 16:35

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3110867 | Matrix: Solid | Date Prep: 12.17.19
MB Sample Id: 7692636-1-BLK | LCS Sample Id: 7692636-1-BKS | LCSD Sample Id: 7692636-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0932	93	0.0913	91	70-130	2	35	mg/kg	12.17.19 14:08	
Toluene	<0.00200	0.100	0.0929	93	0.0913	91	70-130	2	35	mg/kg	12.17.19 14:08	
Ethylbenzene	<0.00200	0.100	0.0911	91	0.0898	90	71-129	1	35	mg/kg	12.17.19 14:08	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.186	93	70-135	2	35	mg/kg	12.17.19 14:08	
o-Xylene	<0.00200	0.100	0.0919	92	0.0910	91	71-133	1	35	mg/kg	12.17.19 14:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		101		99		70-130	%	12.17.19 14:08
4-Bromofluorobenzene	100		100		96		70-130	%	12.17.19 14:08

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3110867 | Matrix: Soil | Date Prep: 12.17.19
Parent Sample Id: 646590-001 | MS Sample Id: 646590-001 S | MSD Sample Id: 646590-001 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	0.0792	79	0.0818	82	70-130	3	35	mg/kg	12.17.19 14:42	
Toluene	<0.00200	0.100	0.0773	77	0.0808	81	70-130	4	35	mg/kg	12.17.19 14:42	
Ethylbenzene	<0.00200	0.100	0.0699	70	0.0756	76	71-129	8	35	mg/kg	12.17.19 14:42	X
m,p-Xylenes	<0.000755	0.200	0.145	73	0.157	79	70-135	8	35	mg/kg	12.17.19 14:42	
o-Xylene	<0.00200	0.100	0.0721	72	0.0777	78	71-133	7	35	mg/kg	12.17.19 14:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		70-130	%	12.17.19 14:42
4-Bromofluorobenzene	101		100		70-130	%	12.17.19 14:42

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

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

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

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

XENCO LABORATORIES

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 604422

www.xenco.com Page 1 of 2

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 dabyers@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:	Longview Federal 12-15H	Turn Around	
Project Number:	034819045	Routine	☒
Project Location	Rural Eddy County	Rush:	5 DAY
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	0.6	Temp Blank:	(Yes) No
Received Intact:	(Yes) No	Wet Ice:	(Yes) No
Cooler Custody Seals:	Yes (No) N/A	Thermometer ID	TNH007
Sample Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
		Total Containers:	11

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Pres. Code
	PH09	S	12/12/19	0845	2'	1	X	X	X	
	PH09A	S		0920	7'	1	X	X	X	
	PH09B	S		0940	13'	1	X	X	X	
	PH10	S		0958	1'	1	X	X	X	
	PH10A	S		1050	11'	1	X	X	X	
	PH11	S		1427	4'	1	X	X	X	
	PH11A	S		1500	12'	1	X	X	X	
	PH12	S		1548	8'	1	X	X	X	
	PH12A	S		1553	10'	1	X	X	X	
	PH13	S	↓	1610	1'	1	X	X	X	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

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

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		12/17/19 10:45			12/17/19 11:00

Revised Date 022619 Rev. 2019.1

Chain of Custody

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 046422

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

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:	Longview Federal 12-15H	Turn Around	
Project Number:	034819045	Routine	☒
Project Location	Rural Eddy County	Rush:	5DAY
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	See pg 1	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 of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	PH 13A	S	12/12/19	1635	10'	1		X	X	X

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers	Elliot Ivy	12/17/19 10:45am	Elliot Ivy		12/17/19 10:45 1100
2						cc 12/17/19
3						
4						
5						
6						

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/17/2019 11:00:00 AM

Work Order #: 646622

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 12/17/2019

Checklist reviewed by: Jessica Kramer Date: 12/18/2019

Analytical Report 651337

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 12-15

034819045

10-FEB-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

10-FEB-20

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

Reference: XENCO Report No(s): **651337**
Longview Federal 12-15
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) 651337. 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. 651337 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH14	S	01-31-20 13:35	6 ft	651337-001
PH14A	S	01-31-20 13:40	8 ft	651337-002
PH15	S	01-31-20 14:15	4 ft	651337-003
PH15A	S	01-31-20 14:45	10 ft	651337-004
PH16	S	01-31-20 15:15	1 ft	651337-005
PH16A	S	01-31-20 16:00	10 ft	651337-006
PH17	S	01-31-20 16:20	1 ft	651337-007
PH17A	S	01-31-20 16:45	10 ft	651337-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: Longview Federal 12-15

Project ID: *034819045*
Work Order Number(s): *651337*

Report Date: *10-FEB-20*
Date Received: *02/04/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115626 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3115711 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 651337

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Tue Feb-04-20 02:11 pm
Report Date: 10-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	651337-001		651337-002		651337-003		651337-004		651337-005		651337-006	
	Field Id:	PH14		PH14A		PH15		PH15A		PH16		PH16A	
	Depth:	6- ft		8- ft		4- ft		10- ft		1- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-31-20 13:35		Jan-31-20 13:40		Jan-31-20 14:15		Jan-31-20 14:45		Jan-31-20 15:15		Jan-31-20 16:00	
BTEX by EPA 8021B	*Extracted:*	Feb-04-20 17:00		Feb-04-20 17:00		Feb-04-20 17:00		Feb-04-20 17:00		Feb-04-20 17:00		Feb-04-20 17:00	
	Analyzed:	Feb-05-20 06:16		Feb-05-20 06:36		Feb-05-20 06:56		Feb-05-20 07:17		Feb-05-20 07:37		Feb-05-20 07:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00403	0.00403	<0.00403	0.00403	<0.00402	0.00402	<0.00404	0.00404	<0.00402	0.00402	<0.00400	0.00400
o-Xylene		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Xylenes, Total		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	*Extracted:*	Feb-05-20 10:08		Feb-05-20 10:08		Feb-05-20 14:35		Feb-05-20 14:35		Feb-05-20 14:35		Feb-05-20 14:35	
	Analyzed:	Feb-05-20 17:52		Feb-05-20 17:57		Feb-05-20 18:35		Feb-05-20 18:54		Feb-05-20 19:00		Feb-05-20 19:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		280	9.98	307	9.92	3250	49.8	<10.1	10.1	16.9	10.1	16.7	10.0
TPH by SW8015 Mod	*Extracted:*	Feb-05-20 11:00		Feb-05-20 11:00		Feb-05-20 11:00		Feb-05-20 11:00		Feb-05-20 11:00		Feb-05-20 11:00	
	Analyzed:	Feb-05-20 19:38		Feb-05-20 19:38		Feb-05-20 19:58		Feb-05-20 19:58		Feb-05-20 20:17		Feb-05-20 20:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<50.1	50.1	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<50.1	50.1	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.1	50.1	<49.9	49.9	<50.1	50.1	<50.0	50.0	<49.9	49.9
Total GRO-DRO		<49.8	49.8	<50.1	50.1	<49.9	49.9	<50.1	50.1	<50.0	50.0	<49.9	49.9
Total TPH		<49.8	49.8	<50.1	50.1	<49.9	49.9	<50.1	50.1	<50.0	50.0	<49.9	49.9

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 651337

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15

Project Id: 034819045
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Tue Feb-04-20 02:11 pm
Report Date: 10-FEB-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	651337-007		651337-008					
	Field Id:	PH17		PH17A					
	Depth:	1- ft		10- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-31-20 16:20		Jan-31-20 16:45					
BTEX by EPA 8021B	***Extracted:***	Feb-05-20 10:30		Feb-05-20 10:30					
	Analyzed:	Feb-05-20 15:38		Feb-05-20 15:59					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199				
Toluene		<0.00200	0.00200	<0.00199	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199				
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199				
Xylenes, Total		<0.00200	0.00200	<0.00199	0.00199				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199				
Chloride by EPA 300	***Extracted:***	Feb-05-20 14:35		Feb-05-20 14:35					
	Analyzed:	Feb-05-20 19:13		Feb-05-20 19:19					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		26.6	9.94	10.1	9.98				
TPH by SW8015 Mod	***Extracted:***	Feb-05-20 11:00		Feb-05-20 11:00					
	Analyzed:	Feb-05-20 20:36		Feb-05-20 20:36					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.2	50.2				
Diesel Range Organics (DRO)		<50.0	50.0	<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.2	50.2				
Total GRO-DRO		<50.0	50.0	<50.2	50.2				
Total TPH		<50.0	50.0	<50.2	50.2				

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH14**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-001	Date Collected:	01.31.20 13.35	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 10.08	Basis:	Wet Weight
Seq Number:	3115697				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**280**	9.98	mg/kg	02.05.20 17.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.05.20 19.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.05.20 19.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.05.20 19.38	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.05.20 19.38	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.05.20 19.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.05.20 19.38	
o-Terphenyl	84-15-1	106	%	70-135	02.05.20 19.38	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH14**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-001	Date Collected:	01.31.20 13.35	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.05.20 06.16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.05.20 06.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.05.20 06.16	
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.05.20 06.16	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH14A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-002	Date Collected:	01.31.20 13.40	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 10.08	Basis:	Wet Weight
Seq Number:	3115697				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**307**	9.92	mg/kg	02.05.20 17.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.05.20 19.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.05.20 19.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.05.20 19.38	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.05.20 19.38	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.05.20 19.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.05.20 19.38	
o-Terphenyl	84-15-1	96	%	70-135	02.05.20 19.38	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH14A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-002	Date Collected:	01.31.20 13.40	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.05.20 06.36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.05.20 06.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.05.20 06.36	
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.05.20 06.36	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH15**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-003	Date Collected:	01.31.20 14.15	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3250**	49.8	mg/kg	02.05.20 18.35		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.05.20 19.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.05.20 19.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.05.20 19.58	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.05.20 19.58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.05.20 19.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.05.20 19.58	
o-Terphenyl	84-15-1	106	%	70-135	02.05.20 19.58	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH15**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-003	Date Collected:	01.31.20 14.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.05.20 06.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.05.20 06.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.05.20 06.56	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.05.20 06.56	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH15A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-004	Date Collected:	01.31.20 14.45	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	02.05.20 18.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.05.20 19.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.05.20 19.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.05.20 19.58	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.05.20 19.58	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.05.20 19.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	02.05.20 19.58	
o-Terphenyl	84-15-1	94	%	70-135	02.05.20 19.58	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH15A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-004	Date Collected:	01.31.20 14.45	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.05.20 07.17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.05.20 07.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.05.20 07.17	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.05.20 07.17	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH16**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-005	Date Collected:	01.31.20 15.15	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.9**	10.1	mg/kg	02.05.20 19.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.05.20 20.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.05.20 20.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.05.20 20.17	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.05.20 20.17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.05.20 20.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.05.20 20.17	
o-Terphenyl	84-15-1	105	%	70-135	02.05.20 20.17	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH16**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-005	Date Collected:	01.31.20 15.15	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.05.20 07.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.05.20 07.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.05.20 07.37	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.05.20 07.37	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH16A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-006	Date Collected:	01.31.20 16.00	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.7**	10.0	mg/kg	02.05.20 19.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.05.20 20.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.05.20 20.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.05.20 20.17	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.05.20 20.17	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.05.20 20.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.05.20 20.17	
o-Terphenyl	84-15-1	98	%	70-135	02.05.20 20.17	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH16A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-006	Date Collected:	01.31.20 16.00	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.04.20 17.00	Basis:	Wet Weight
Seq Number:	3115626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.05.20 07.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.05.20 07.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.05.20 07.58	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.05.20 07.58	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH17**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-007	Date Collected:	01.31.20 16.20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.6**	9.94	mg/kg	02.05.20 19.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.05.20 20.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.05.20 20.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.05.20 20.36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.05.20 20.36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.05.20 20.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.05.20 20.36	
o-Terphenyl	84-15-1	102	%	70-135	02.05.20 20.36	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH17**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-007	Date Collected:	01.31.20 16.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 10.30	Basis:	Wet Weight
Seq Number:	3115711				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.05.20 15.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.05.20 15.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.05.20 15.38	
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.05.20 15.38	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH17A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-008	Date Collected:	01.31.20 16.45	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 14.35	Basis:	Wet Weight
Seq Number:	3115698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.1**	9.98	mg/kg	02.05.20 19.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.05.20 11.00	Basis:	Wet Weight
Seq Number:	3115701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.05.20 20.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.05.20 20.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.05.20 20.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.05.20 20.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.05.20 20.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.05.20 20.36	
o-Terphenyl	84-15-1	97	%	70-135	02.05.20 20.36	

Certificate of Analytical Results 651337

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15

Sample Id:	**PH17A**	Matrix:	Soil	Date Received:	02.04.20 14.11
Lab Sample Id:	651337-008	Date Collected:	01.31.20 16.45	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.05.20 10.30	Basis:	Wet Weight
Seq Number:	3115711				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.05.20 15.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.05.20 15.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.05.20 15.59	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.05.20 15.59	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 651337

LT Environmental, Inc.

Longview Federal 12-15

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3115697 Matrix: Solid Date Prep: 02.05.20
MB Sample Id: 7695986-1-BLK LCS Sample Id: 7695986-1-BKS LCSD Sample Id: 7695986-1-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	259	104	90-110	1	20	mg/kg	02.05.20 15:02	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3115698 Matrix: Solid Date Prep: 02.05.20
MB Sample Id: 7696035-1-BLK LCS Sample Id: 7696035-1-BKS LCSD Sample Id: 7696035-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	261	104	90-110	1	20	mg/kg	02.05.20 18:22	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3115697 Matrix: Soil Date Prep: 02.05.20
Parent Sample Id: 651159-018 MS Sample Id: 651159-018 S MSD Sample Id: 651159-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	995	200	1200	103	1210	108	90-110	1	20	mg/kg	02.05.20 15:19	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3115697 Matrix: Soil Date Prep: 02.05.20
Parent Sample Id: 651336-004 MS Sample Id: 651336-004 S MSD Sample Id: 651336-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	255	202	462	102	455	101	90-110	2	20	mg/kg	02.05.20 16:42	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3115698 Matrix: Soil Date Prep: 02.05.20
Parent Sample Id: 651337-003 MS Sample Id: 651337-003 S MSD Sample Id: 651337-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3250	202	3470	109	3470	110	90-110	0	20	mg/kg	02.05.20 18:41	

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

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

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

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

QC Summary 651337

LT Environmental, Inc.

Longview Federal 12-15

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3115701 — Matrix: Solid — Date Prep: 02.05.20
MB Sample Id: 7696086-1-BLK — LCS Sample Id: 7696086-1-BKS — LCSD Sample Id: 7696086-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	979	98	70-135	10	35	mg/kg	02.05.20 16:42	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	986	99	70-135	7	35	mg/kg	02.05.20 16:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		131		123		70-135	%	02.05.20 16:42
o-Terphenyl	126		120		113		70-135	%	02.05.20 16:42

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3115701 — Matrix: Solid — Date Prep: 02.05.20
MB Sample Id: 7696086-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.05.20 16:42	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3115701 — Matrix: Soil — Date Prep: 02.05.20
Parent Sample Id: 651336-001 — MS Sample Id: 651336-001 S — MSD Sample Id: 651336-001 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	1240	124	1080	108	70-135	14	35	mg/kg	02.05.20 17:22	
Diesel Range Organics (DRO)	<50.1	1000	1100	110	1100	110	70-135	0	35	mg/kg	02.05.20 17:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		120		70-135	%	02.05.20 17:22
o-Terphenyl	124		111		70-135	%	02.05.20 17:22

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

QC Summary 651337

LT Environmental, Inc.

Longview Federal 12-15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3115626 — Matrix: Solid — Date Prep: 02.04.20
MB Sample Id: 7695975-1-BLK — LCS Sample Id: 7695975-1-BKS — LCSD Sample Id: 7695975-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0932	93	0.107	107	70-130	14	35	mg/kg	02.04.20 23:48	
Toluene	<0.00200	0.100	0.0978	98	0.103	103	70-130	5	35	mg/kg	02.04.20 23:48	
Ethylbenzene	<0.00200	0.100	0.0885	89	0.0985	99	71-129	11	35	mg/kg	02.04.20 23:48	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.203	102	70-135	5	35	mg/kg	02.04.20 23:48	
o-Xylene	<0.00200	0.100	0.0933	93	0.102	102	71-133	9	35	mg/kg	02.04.20 23:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		104		70-130	%	02.04.20 23:48
4-Bromofluorobenzene	97		98		97		70-130	%	02.04.20 23:48

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3115711 — Matrix: Solid — Date Prep: 02.05.20
MB Sample Id: 7696040-1-BLK — LCS Sample Id: 7696040-1-BKS — LCSD Sample Id: 7696040-1-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	0.125	125	0.115	115	70-130	8	35	mg/kg	02.05.20 12:51	
Toluene	<0.00200	0.100	0.114	114	0.105	105	70-130	8	35	mg/kg	02.05.20 12:51	
Ethylbenzene	<0.00200	0.100	0.110	110	0.101	101	71-129	9	35	mg/kg	02.05.20 12:51	
m,p-Xylenes	<0.00400	0.200	0.216	108	0.198	99	70-135	9	35	mg/kg	02.05.20 12:51	
o-Xylene	<0.00200	0.100	0.108	108	0.0992	99	71-133	8	35	mg/kg	02.05.20 12:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		108		70-130	%	02.05.20 12:51
4-Bromofluorobenzene	93		92		94		70-130	%	02.05.20 12:51

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3115626 — Matrix: Soil — Date Prep: 02.04.20
Parent Sample Id: 651336-001 — MS Sample Id: 651336-001 S — MSD Sample Id: 651336-001 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	0.0990	100	0.0996	99	70-130	1	35	mg/kg	02.05.20 00:29	
Toluene	<0.00198	0.0992	0.0957	96	0.0959	95	70-130	0	35	mg/kg	02.05.20 00:29	
Ethylbenzene	<0.00198	0.0992	0.0918	93	0.0917	91	71-129	0	35	mg/kg	02.05.20 00:29	
m,p-Xylenes	<0.00397	0.198	0.189	95	0.188	93	70-135	1	35	mg/kg	02.05.20 00:29	
o-Xylene	<0.00198	0.0992	0.0953	96	0.0951	94	71-133	0	35	mg/kg	02.05.20 00:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	02.05.20 00:29
4-Bromofluorobenzene	97		97		70-130	%	02.05.20 00:29

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

QC Summary 651337

LT Environmental, Inc.

Longview Federal 12-15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3115711 Matrix: Soil Date Prep: 02.05.20

Parent Sample Id: 651409-001 MS Sample Id: 651409-001 S MSD Sample Id: 651409-001 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	0.117	117	0.115	115	70-130	2	35	mg/kg	02.05.20 13:32	
Toluene	<0.00200	0.100	0.107	107	0.105	105	70-130	2	35	mg/kg	02.05.20 13:32	
Ethylbenzene	<0.00200	0.100	0.102	102	0.101	101	71-129	1	35	mg/kg	02.05.20 13:32	
m,p-Xylenes	<0.00401	0.200	0.200	100	0.196	98	70-135	2	35	mg/kg	02.05.20 13:32	
o-Xylene	<0.00200	0.100	0.100	100	0.100	100	71-133	0	35	mg/kg	02.05.20 13:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	02.05.20 13:32
4-Bromofluorobenzene	94		93		70-130	%	02.05.20 13:32

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com

Work Order No: 651337

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 & abyers@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:	Longview Federal 12-15	Turn Around	
Project Number:	034819045	Routine	☒
Project Location	Rural Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	2RP-5630 & 2RP-5647	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	4.4	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	8

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	PH14	S	1/31/20	1335	6'	1			X	
	PH14A			1340	8'	1				
	PH15			1415	4'	1				
	PH15A			1445	10'	1				
	PH16			1515	1'	1				
	PH16A			1600	10'	1				
	PH17			1620	1'	1				
	PH17A	↓	↓	1645	10'	1				

ANALYSIS REQUEST

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		2/4/20 1411	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Certificate of Analysis Summary 663017

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Fri 05.29.2020 16:50
Report Date: 06.01.2020 13:14
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	663017-001		663017-002					
	Field Id:	PH18		PH18A					
	Depth:	0.5- ft		10- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	05.29.2020 13:30		05.29.2020 15:02					
BTEX by EPA 8021B	***Extracted:***	05.29.2020 17:42		05.29.2020 17:42					
	Analyzed:	05.30.2020 19:21		05.30.2020 19:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00401	0.00401	<0.00399	0.00399				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	05.29.2020 17:50		05.29.2020 17:50					
	Analyzed:	05.30.2020 00:03		05.30.2020 00:10					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		68.6	10.0	10.8	10.0				
TPH by SW8015 Mod	***Extracted:***	05.29.2020 17:00		05.29.2020 17:00					
	Analyzed:	05.30.2020 03:21		05.30.2020 03:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.1	50.1				
Diesel Range Organics (DRO)		<50.3	50.3	<50.1	50.1				
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.1	50.1				
Total TPH		<50.3	50.3	<50.1	50.1				

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

Jessica Kramer
Project Manager

Analytical Report 663017

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

Longview Federal 12-15H

034819045

06.01.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06.01.2020

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

Reference: XENCO Report No(s): **663017**
Longview Federal 12-15H
Project Address: Rural Eddy County

Joseph Hernandez:

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) 663017. 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. 663017 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 663017

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH18	S	05.29.2020 13:30	0.5 ft	663017-001
PH18A	S	05.29.2020 15:02	10 ft	663017-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15H

Project ID: *034819045*
Work Order Number(s): *663017*

Report Date: *06.01.2020*
Date Received: *05.29.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
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Work Order No: 466307

Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	LT Environmental	Company Name:	WPX Energy Permian, LLC
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland TX, 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 894-5641	Email:	jhernandez@ltenv.com & abyers@ltenv.com james.raley@wpxenergy.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:	Longview Federal 12-15H	Turn Around	
Project Number:	034819045	Routine ☐	
Project Location	Rural Eddy County	Rush: 24 HR	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	PH18	S	5/29/20	1330	0.5'	1		X	X	X
	PH18A	S	5/29/20	1502	10'	1		X	X	X

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		5/29/20 1650	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Certificate of Analytical Results 663017

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH18**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663017-001	Date Collected:	05.29.2020 13:30	Sample Depth:	0.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:50	Basis:	Wet Weight
Seq Number:	3127510				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.6**	10.0	mg/kg	05.30.2020 00:03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.29.2020 17:00	Basis:	Wet Weight
Seq Number:	3127512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	05.30.2020 03:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	05.30.2020 03:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	05.30.2020 03:21	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	05.30.2020 03:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.30.2020 03:21	
o-Terphenyl	84-15-1	98	%	70-135	05.30.2020 03:21	

Certificate of Analytical Results 663017

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH18**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663017-001	Date Collected:	05.29.2020 13:30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:42	Basis:	Wet Weight
Seq Number:	3127502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.30.2020 19:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.30.2020 19:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.30.2020 19:21	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.30.2020 19:21	

Certificate of Analytical Results 663017

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH18A**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663017-002	Date Collected:	05.29.2020 15:02	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:50	Basis:	Wet Weight
Seq Number:	3127510				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.8**	10.0	mg/kg	05.30.2020 00:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.29.2020 17:00	Basis:	Wet Weight
Seq Number:	3127512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.30.2020 03:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.30.2020 03:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.30.2020 03:42	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.30.2020 03:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.30.2020 03:42	
o-Terphenyl	84-15-1	96	%	70-135	05.30.2020 03:42	

Certificate of Analytical Results 663017

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH18A**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663017-002	Date Collected:	05.29.2020 15:02	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:42	Basis:	Wet Weight
Seq Number:	3127502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.30.2020 19:42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.30.2020 19:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.30.2020 19:42	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.30.2020 19:42	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 663017

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3127510 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704416-1-BLK — LCS Sample Id: 7704416-1-BKS — LCSD Sample Id: 7704416-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	251	100	90-110	0	20	mg/kg	05.29.2020 23:00	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3127510 — Matrix: Soil — Date Prep: 05.29.2020
Parent Sample Id: 663008-011 — MS Sample Id: 663008-011 S — MSD Sample Id: 663008-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.4	198	199	90	200	90	90-110	1	20	mg/kg	05.29.2020 23:21	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704453-1-BLK — LCS Sample Id: 7704453-1-BKS — LCSD Sample Id: 7704453-1-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	971	97	990	99	70-135	2	35	mg/kg	05.30.2020 01:20	
Diesel Range Organics (DRO)	<50.0	1000	997	100	1020	102	70-135	2	35	mg/kg	05.30.2020 01:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		131		134		70-135	%	05.30.2020 01:20
o-Terphenyl	96		101		104		70-135	%	05.30.2020 01:20

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704453-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.30.2020 00:59	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Soil — Date Prep: 05.29.2020
Parent Sample Id: 663008-011 — MS Sample Id: 663008-011 S — MSD Sample Id: 663008-011 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	999	100	988	98	70-135	1	35	mg/kg	05.30.2020 02:21	
Diesel Range Organics (DRO)	<50.0	999	1040	104	1030	102	70-135	1	35	mg/kg	05.30.2020 02:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		116		70-135	%	05.30.2020 02:21
o-Terphenyl	102		102		70-135	%	05.30.2020 02:21

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

QC Summary 663017

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3127502 Matrix: Solid Date Prep: 05.29.2020

MB Sample Id: 7704413-1-BLK LCS Sample Id: 7704413-1-BKS LCSD Sample Id: 7704413-1-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	0.108	108	70-130	3	35	mg/kg	05.30.2020 17:19	
Toluene	<0.00200	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	05.30.2020 17:19	
Ethylbenzene	<0.00200	0.100	0.0947	95	0.0954	95	71-129	1	35	mg/kg	05.30.2020 17:19	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.194	97	70-135	0	35	mg/kg	05.30.2020 17:19	
o-Xylene	<0.00200	0.100	0.0990	99	0.0994	99	71-133	0	35	mg/kg	05.30.2020 17:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		107		70-130	%	05.30.2020 17:19
4-Bromofluorobenzene	96		91		91		70-130	%	05.30.2020 17:19

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3127502 Matrix: Soil Date Prep: 05.29.2020

Parent Sample Id: 662887-009 MS Sample Id: 662887-009 S MSD Sample Id: 662887-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0938	94	0.106	106	70-130	12	35	mg/kg	05.30.2020 18:00	
Toluene	<0.00200	0.100	0.0818	82	0.0982	98	70-130	18	35	mg/kg	05.30.2020 18:00	
Ethylbenzene	<0.00200	0.100	0.0705	71	0.0877	88	71-129	22	35	mg/kg	05.30.2020 18:00	
m,p-Xylenes	<0.00400	0.200	0.139	70	0.177	89	70-135	24	35	mg/kg	05.30.2020 18:00	
o-Xylene	<0.00200	0.100	0.0739	74	0.0900	90	71-133	20	35	mg/kg	05.30.2020 18:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	05.30.2020 18:00
4-Bromofluorobenzene	94		93		70-130	%	05.30.2020 18:00

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Analytical Report 663018

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

Longview Federal 12-15H

034819045

06.01.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-6)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06.01.2020

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

Reference: XENCO Report No(s): **663018**
Longview Federal 12-15H
Project Address: Rural Eddy County

Joseph Hernandez:

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) 663018. 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. 663018 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 663018

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH19	S	05.29.2020 15:18	3.5 ft	663018-001
PH19A	S	05.29.2020 15:20	4 ft	663018-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 12-15H

Project ID: *034819045*
Work Order Number(s): *663018*

Report Date: *06.01.2020*
Date Received: *05.29.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 663018

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 12-15H

Project Id: 034819045
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Fri 05.29.2020 16:50
Report Date: 06.01.2020 13:14
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	663018-001		663018-002			
	Field Id:	PH19		PH19A			
	Depth:	3.5- ft		4- ft			
	Matrix:	SOIL		SOIL			
	Sampled:	05.29.2020 15:18		05.29.2020 15:20			
BTEX by EPA 8021B	***Extracted:***	05.29.2020 17:42		05.29.2020 17:42			
	Analyzed:	05.30.2020 20:02		05.30.2020 20:23			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		<0.00199	0.00199	<0.00202	0.00202		
Toluene		<0.00199	0.00199	<0.00202	0.00202		
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202		
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403		
o-Xylene		<0.00199	0.00199	<0.00202	0.00202		
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202		
Total BTEX		<0.00199	0.00199	<0.00202	0.00202		
Inorganic Anions by EPA 300	***Extracted:***	05.29.2020 17:50		05.29.2020 17:50			
	Analyzed:	05.30.2020 00:17		05.30.2020 00:24			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		357	10.1	135	10.1		
TPH by SW8015 Mod	***Extracted:***	05.29.2020 17:00		05.29.2020 17:00			
	Analyzed:	05.30.2020 04:02		05.30.2020 04:22			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8		
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8		
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8		
Total TPH		<49.9	49.9	<49.8	49.8		

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 663018

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH19**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663018-001	Date Collected:	05.29.2020 15:18	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:50	Basis:	Wet Weight
Seq Number:	3127510				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**357**	10.1	mg/kg	05.30.2020 00:17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.29.2020 17:00	Basis:	Wet Weight
Seq Number:	3127512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.30.2020 04:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.30.2020 04:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.30.2020 04:02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.30.2020 04:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.30.2020 04:02	
o-Terphenyl	84-15-1	98	%	70-135	05.30.2020 04:02	

Certificate of Analytical Results 663018

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH19**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663018-001	Date Collected:	05.29.2020 15:18	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:42	Basis:	Wet Weight
Seq Number:	3127502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.30.2020 20:02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.30.2020 20:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.30.2020 20:02	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.30.2020 20:02	

Certificate of Analytical Results 663018

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH19A**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663018-002	Date Collected:	05.29.2020 15:20	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:50	Basis:	Wet Weight
Seq Number:	3127510				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**135**	10.1	mg/kg	05.30.2020 00:24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.29.2020 17:00	Basis:	Wet Weight
Seq Number:	3127512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.30.2020 04:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.30.2020 04:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.30.2020 04:22	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.30.2020 04:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.30.2020 04:22	
o-Terphenyl	84-15-1	96	%	70-135	05.30.2020 04:22	

Certificate of Analytical Results 663018

LT Environmental, Inc., Arvada, CO

Longview Federal 12-15H

Sample Id:	**PH19A**	Matrix:	Soil	Date Received:	05.29.2020 16:50
Lab Sample Id:	663018-002	Date Collected:	05.29.2020 15:20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.29.2020 17:42	Basis:	Wet Weight
Seq Number:	3127502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.30.2020 20:23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.30.2020 20:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.30.2020 20:23	
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.30.2020 20:23	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 663018

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3127510 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704416-1-BLK — LCS Sample Id: 7704416-1-BKS — LCSD Sample Id: 7704416-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	251	100	90-110	0	20	mg/kg	05.29.2020 23:00	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3127510 — Matrix: Soil — Date Prep: 05.29.2020
Parent Sample Id: 663008-011 — MS Sample Id: 663008-011 S — MSD Sample Id: 663008-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.4	198	199	90	200	90	90-110	1	20	mg/kg	05.29.2020 23:21	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704453-1-BLK — LCS Sample Id: 7704453-1-BKS — LCSD Sample Id: 7704453-1-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	971	97	990	99	70-135	2	35	mg/kg	05.30.2020 01:20	
Diesel Range Organics (DRO)	<50.0	1000	997	100	1020	102	70-135	2	35	mg/kg	05.30.2020 01:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		131		134		70-135	%	05.30.2020 01:20
o-Terphenyl	96		101		104		70-135	%	05.30.2020 01:20

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Solid — Date Prep: 05.29.2020
MB Sample Id: 7704453-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.30.2020 00:59	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3127512 — Matrix: Soil — Date Prep: 05.29.2020
Parent Sample Id: 663008-011 — MS Sample Id: 663008-011 S — MSD Sample Id: 663008-011 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	999	100	988	98	70-135	1	35	mg/kg	05.30.2020 02:21	
Diesel Range Organics (DRO)	<50.0	999	1040	104	1030	102	70-135	1	35	mg/kg	05.30.2020 02:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		116		70-135	%	05.30.2020 02:21
o-Terphenyl	102		102		70-135	%	05.30.2020 02:21

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

QC Summary 663018

LT Environmental, Inc.

Longview Federal 12-15H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3127502 Matrix: Solid Date Prep: 05.29.2020

MB Sample Id: 7704413-1-BLK LCS Sample Id: 7704413-1-BKS LCSD Sample Id: 7704413-1-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	0.108	108	70-130	3	35	mg/kg	05.30.2020 17:19	
Toluene	<0.00200	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	05.30.2020 17:19	
Ethylbenzene	<0.00200	0.100	0.0947	95	0.0954	95	71-129	1	35	mg/kg	05.30.2020 17:19	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.194	97	70-135	0	35	mg/kg	05.30.2020 17:19	
o-Xylene	<0.00200	0.100	0.0990	99	0.0994	99	71-133	0	35	mg/kg	05.30.2020 17:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		107		70-130	%	05.30.2020 17:19
4-Bromofluorobenzene	96		91		91		70-130	%	05.30.2020 17:19

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3127502 Matrix: Soil Date Prep: 05.29.2020

Parent Sample Id: 662887-009 MS Sample Id: 662887-009 S MSD Sample Id: 662887-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0938	94	0.106	106	70-130	12	35	mg/kg	05.30.2020 18:00	
Toluene	<0.00200	0.100	0.0818	82	0.0982	98	70-130	18	35	mg/kg	05.30.2020 18:00	
Ethylbenzene	<0.00200	0.100	0.0705	71	0.0877	88	71-129	22	35	mg/kg	05.30.2020 18:00	
m,p-Xylenes	<0.00400	0.200	0.139	70	0.177	89	70-135	24	35	mg/kg	05.30.2020 18:00	
o-Xylene	<0.00200	0.100	0.0739	74	0.0900	90	71-133	20	35	mg/kg	05.30.2020 18:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	05.30.2020 18:00
4-Bromofluorobenzene	94		93		70-130	%	05.30.2020 18:00

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 20E3018

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	LT Environmental	Company Name:	WPX Energy Permian, LLC
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 894-5641	Email:	james.raley@wpxenergy.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:	Longview Federal 12-15H	Turn Around	
Project Number:	034819045	Routine ☐	
Project Location	Rural Eddy County	Rush: 24 HR	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	CHLORIDE (EPA 300.0)	Sample Comments
	PH19	S	5/29/20	1518	3.5'	1		X	X	X	
	PH19A	S	5/29/20	1520	4'	1		X	X	X	

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		5/29/20 @ 16:50	2		
			4		
			6		