LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

May 20, 2020

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

RE: Closure Request
WPX Energy Permian, Inc.
Incident ID NRM2000356004
Longview Federal 1 #021H
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, Inc. (WPX), presents the following Closure Request detailing soil sampling and excavation activities at the Longview Federal 1 #021H (Site) in Unit D, Section 1, Township 23 South, Range 28 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil following an event that resulted in the release of produced water and crude oil to the surface of the well pad. Based on the excavation activities and results of the soil sampling events, XTO is submitting this Closure Request.

BACKGROUND

On October 31, 2019, a stainless line on a wellhead failed, resulting in the release of 5 barrels (bbls) of produced water and 5 bbls of crude oil to the well pad surface. Released liquids flowed south of the wellhead and an area north and west of the wellhead was affected by overspray. None of the released fluid was recovered. The spill volume was calculated by averaging the saturated soil depth and estimating the percentage of liquids based on soil type. Any free liquids were added to the total volume. The average saturation depth of the soil was observed to be equal to or less than 1.75 inches and no free liquids were present. The soil type was determined to be pad caliche, which was estimated to have an available space (i.e. porosity) of 10 percent (%) total volume. The area of overspray was determined to be composed of sand with a porosity of 28% and a saturation depth of 0.25 inches. Based on these assumptions, the following equation was used to calculate total volume:

"saturated soil volume (cubic feet) x (4.21 cubic feet per bbl of liquid) x estimated soil porosity (%)."

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 November 12, 2019, and was assigned Incident ID NRM2000356004 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 55 feet below ground surface (bgs) based on known aquifer properties and an identified water well. The nearest permitted water well with depth to water data is New Mexico Office of the State Engineer (OSE) file number C 04418, located approximately 5,000 feet south of the Site. OSE well C 04418 was drilled by WPX on March 31, 2020 during a depth to water study of 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. The OSE Well Record & Log and Plugging Record of the well is included as Attachment 2. The closest significant watercourse to the Site is an unnamed stream located approximately 3,100 feet west-southwest of the Site. The Site is greater than 300 feet from any occupied residence, school, hospital, institution, church, or wetland. Although the NMOCD online database indicates the presence of a wetland area to the southwest of the Site, WPX contracted SWCA Environmental Consultants (SWCA) to conduct a wetlands study. On February 6, 2020, SWCA conducted the field reconnaissance and determined that the area does not meet the United States Army Corps of Engineers' definition of a wetland. The Wetland Reconnaissance for the Longview 1-21 Well Spill Remediation Project is included as Attachment 3. The Site is greater than 1,000 feet to a freshwater well or spring and is not within an unstable area, 100-year floodplain, or overlying a subsurface mine. The Site is located in a medium-potential karst area.

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.

PRELIMINARY SOIL SAMPLING

On November 5, 2019, LTE personnel inspected the Site to evaluate the release extent. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is shown on Figure 2. LTE personnel advanced one pothole (PH01) within the release extent to a depth of approximately 2 feet bgs to assess soil impacts. Soil samples were collected from 0.5 feet, 1 foot, and 2 feet bgs. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

On November 20, 2019, LTE personnel returned to the Site and collected three surface samples (SS01 through SS03) to characterize the overspray area north of the pumpjack. Soil samples were collected approximately 0.5 feet bgs and are depicted on Figure 2. Soil samples were collected, handled, and analyzed as previously described. Photographic documentation was conducted during the site visit. Photographs are included in Attachment 4.

EXCAVATION SOIL SAMPLING

From November 20, 2019 through January 20, 2020, LTE was onsite to oversee excavation activities within the release area. Excavation occurred in two areas: the main release area surrounding and south of the pumpjack, and a small area to the north near soil sample SS03. Excavation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

Following completion of excavation activities, 5-point composite confirmation soil samples were collected from the floor (samples labeled as "FS") and sidewalls (samples labeled as "SW") of the excavation area. Each soil sample represented at most 200 square feet. Approximately 460 cubic yards of impacted soil were removed from the excavation area and transported to the R360 Red Bluff Facility in Orla, Texas for disposal. The excavation areas measured a total of approximately 4,140 square feet in area and ranged in depth from 0.5 feet to 6 feet bgs. The excavation area and soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results of all excavation confirmation soil samples indicate compliance with the Closure Criteria. Laboratory analytical results of Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 5.

CONCLUSIONS

A total of approximately 460 cubic yards of impacted soil were excavated from the Site. Laboratory analytical results of final excavation confirmation soil samples indicate complacence with Closure Criteria. WPX is requesting closure of Incident ID NRM2000356004. Upon approval of this closure request, WPX will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1.

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	Site Map
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Form C-141
Attachment 2	OSE Well Record & Log and Plugging Record
Attachment 3	Wetland Reconnaissance for the Longview 1-21 Well Spill Remediation Project
Attachment 4	Photographic Log
Attachment 3	Laboratory Analytical Reports

FIGURES

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
LONGVIEW FEDERAL 1 #021H
LOT 4 SEC 1 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034819082_LONGVIEW DEEP FEDERAL 1-21\034819082_FIG01_SL_2020.mxd

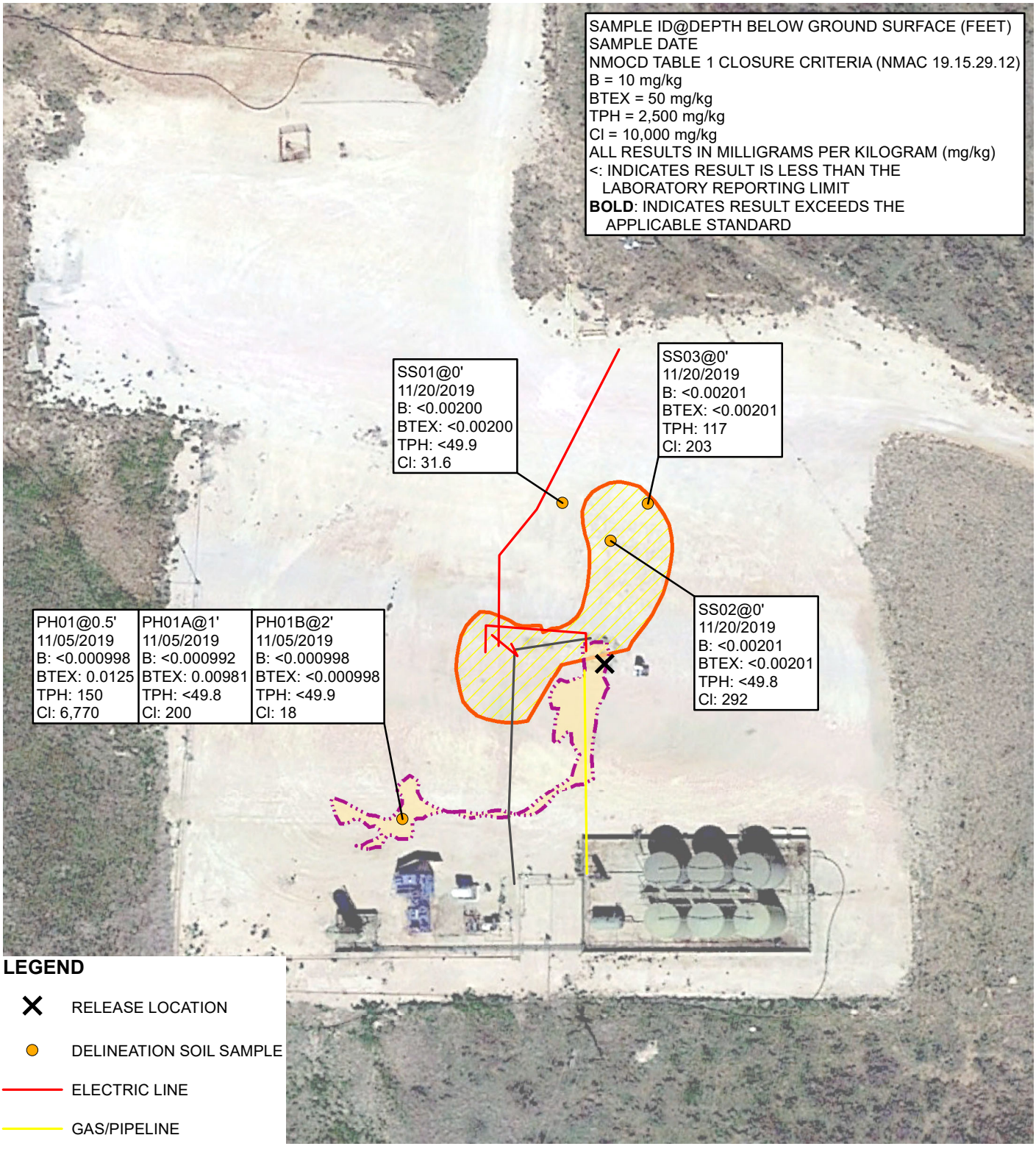
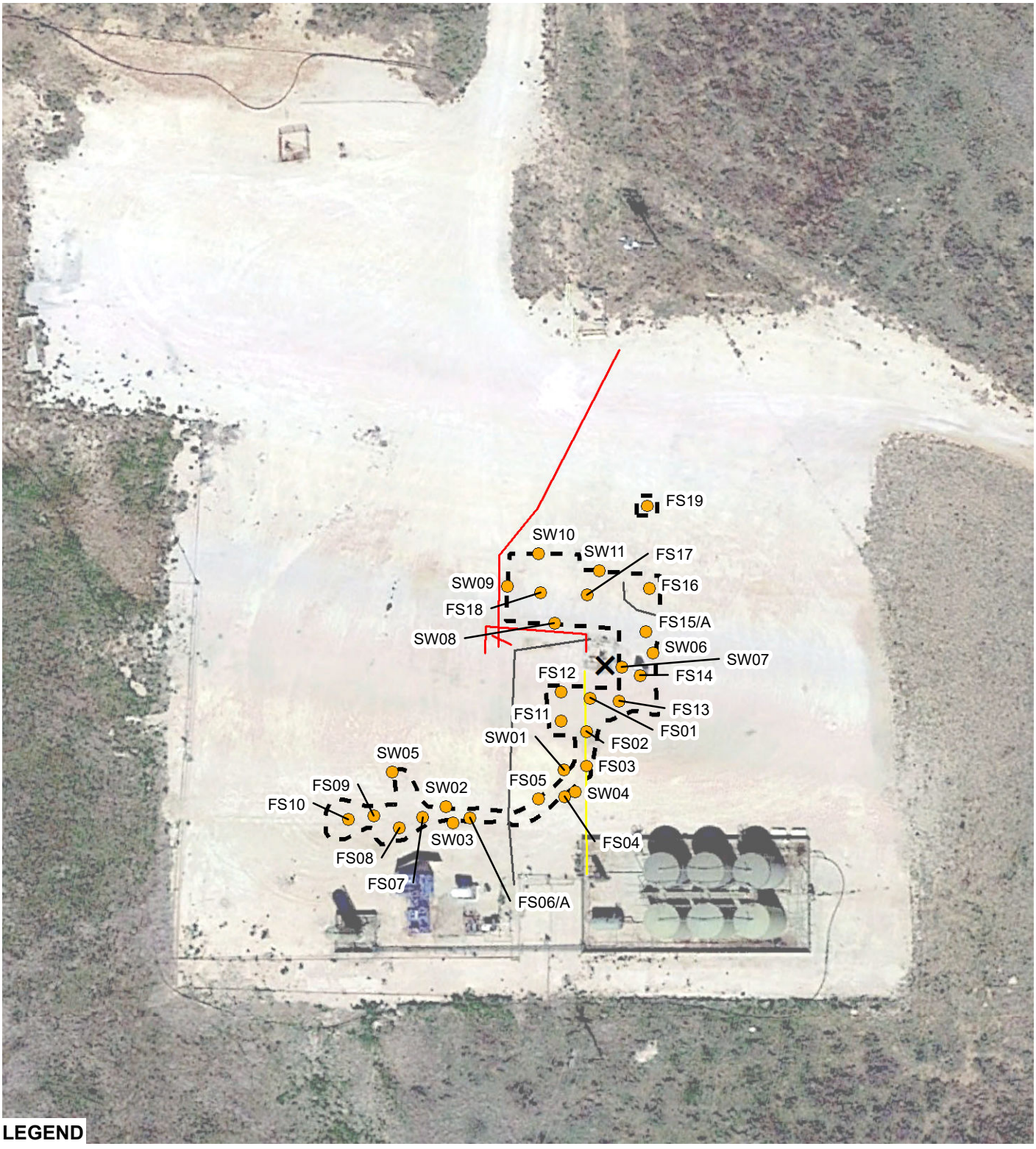


FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
LONGVIEW FEDERAL 1 #021H
LOT 4 SEC 1 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

P:\WPX\GIS\MXD\034819082_LONGVIEW DEEP FEDERAL 1-21\034819082_FIG02_DELINEATION_2020_NEW_STANDARDS.mxd



LEGEND

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE
- ELECTRIC LINE
- GAS/PIPELINE
- OTHER LINE
- EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2016

0 60 120
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
LONGVIEW FEDERAL 1 #021H
LOT 4 SEC 1 T23S R28E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC

P:\WPX\GIS\MXD\034819082_LONGVIEW DEEP FEDERAL 1-21\034819082_FIG03_EXCAVATION_NO_DATA_2020.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

LONGVIEW FEDERAL 1 #021H
INCIDENT ID NRM2000356004
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Sum of GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH01	0.5	11/5/2019	<0.000998	<0.000998	0.00108	0.0114	0.0125	<49.8	150	<49.8	150	150	6,770
PH01A	1	11/5/2019	<0.000992	<0.000992	0.00529	0.00452	0.00981	<49.8	<49.8	<49.8	<49.8	<49.8	200
PH01B	2	11/5/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<49.9	<49.9	<49.9	<49.9	<49.9	18
SS01	0	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	31.6
SS02	0	11/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	292
SS03	0	11/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	117	<50.0	117	117	203
FS01	1	11/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	573
FS02	1	11/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	118
FS03	1	11/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	110
FS04	1 - 1.5	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	50.3
FS05	1 - 1.5	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	52.0	<49.9	<49.9	52.0	84.6
FS06	1 - 2	11/20/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	264	53.8	264	318	90.6
FS06A	2	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	192
FS07	1 - 2	11/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	70.8	<49.9	70.8	70.8	132
FS08	2	11/20/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	97.4
FS09	1.5 - 2	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	101
FS10	1.5 - 2	11/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	45.2
FS11	0.5	01/02/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	285
FS12	0.5	01/02/2020	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<50.2	<50.2	<50.2	<50.2	<50.2	285
FS13	2	01/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	252
FS14	2	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	328
FS15	2	01/02/2020	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<50.2	<50.2	<50.2	<50.2	<50.2	1,900
FS15A	3	01/20/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	405
FS16	2	01/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	466
FS17	6	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	192
FS18	6	01/20/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	201
FS19	0 - 0.3	01/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	86.7
SW01	0 - 2	11/20/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	125
SW02	0 - 2	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	101
SW03	0 - 2	11/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	62.8
SW04	0 - 2	11/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	76.1
SW05	0 - 2	01/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	147
SW06	0 - 2	01/02/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	312
SW07	0 - 2	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	93.6	<50.3	93.6	93.6	2,040
SW08	0 - 6	01/20/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1,290
SW09	0 - 6	01/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	320
SW10	0 - 6	01/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	294
SW11	0 - 6	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	225
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - not established
NMOCD - New Mexico Oil Conservation Division
DRO - diesel range organics
GRO - gasoline range organics
MRO - motor oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold- indicates result exceeds the applicable regulatory standard

ATTACHMENT 1: FORM C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2000356004
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.3386574 Longitude -104.0452118

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: LONGVIEW FEDERAL 1 #021H	Site Type: Production Facility
Date Release Discovered: 10/31/2019	API# *(if applicable): 30-015-40651*

Unit Letter	Section	Township	Range	County
D	01	23S	28E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private

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) 5	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 5	Volume Recovered (bbls) 0
	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: Stainless line on wellhead failed allowing fluids to impact pad surface.		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2000356004
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
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: Jim Raley
Title: Environmental Specialist

Signature: _____
Date: 11/12/2019

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

OCD Only

Received by: _____ Date: _____

Incident ID	**NRM2000356004**
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	**50-100** (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	NRM2000356004
District RP	
Facility ID	
Application ID	

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

Printed Name: **Jim Raley** Title: **Environmental Specialist**

Signature: Jim Raley Date: **5/20/2020**

email: James.Raley@wpxenergy.com Telephone: **575-689-7597**

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NRM2000356004
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: **Jim Raley** Title: **Environmental Specialist**

Signature: _____ Date: **5/20//2020**

email: **James.Raley@wpxenergy.com** Telephone: **575-689-7597**

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2: OSE Well Record & Log and Plugging Record

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1	Well Tag ID Not Issued	C 04418

WELL OWNER NAME(S)	PHONE (OPTIONAL)
WPX Energy	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
5315 Buena Vista Drive	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	19	29.6	N
	LONGITUDE	-104	02	33.7	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

C-12-23S-28E; Longview Federal 12-15

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1789	Mark Mumby	HRL Compliance Solutions

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
3/31/2020	3/31/2020	55	55	Water was not encountered

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): Water was not present in the well after 48-hours

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	45	6.25	Blank PVC	Flush Thread	2.0	0.154	0.010
45	55	6.25	Factory Slotted PVC Screen	Flush Thread	2.0	0.154	0.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			No Annular Seal Material or Gravel Pack	None	

FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	55	55	Silt/Sand with Interbedded caliche	Y ✓N	0.00
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Water Not Encountered

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Well was drilled to determine depth to groundwater in the area. The well was a temporary well. The well was monitored for the presence of water 48-hours after drilling was complete; water was not encountered in the well at this time. The well was subsequently abandoned on 4/3/2020.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Kalvin (Kelly) Padilla

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Mark Mumby

SIGNATURE OF DRILLER / PRINT SIGNEE NAME

4/23/2020

DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

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: Wetland Reconnaissance for the Longview 1-21 Well Spill Remediation Project

SWCA ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

4407 Monterey Oaks Boulevard
Building 1, Suite 110
Austin, Texas 78749
Tel 512.476.0891 Fax 512.476.0893
www.swca.com

TECHNICAL MEMORANDUM

To: Jim Raley
WPX Energy Permian, LLC
5315 Buena Vista Drive
Carlsbad, New Mexico 88220

From: Amber Ballman, Director – Natural Resources, Austin

Date: March 06, 2020

Re: **Wetland Reconnaissance for the Longview 1-21 Well Spill Remediation Project, Eddy County, New Mexico**

INTRODUCTION

WPX Energy Permian, LLC (WPX) had a spill from the existing Longview 1-21 well in January 2020. The well and associated well pad are located in Eddy County, New Mexico, approximately 10.5 miles southeast of the city of Carlsbad and 1.4 miles north-northwest of the U.S. Refinery Road–State Highway 31 intersection (Figure 1).

On behalf of WPX, SWCA Environmental Consultants (SWCA) conducted a wetland reconnaissance within a National Wetland Inventory (NWI)-mapped wetland (U.S. Fish and Wildlife Service 2019) located due west of the Longview 1-21 well pad. The purpose of the wetland reconnaissance was to determine if the NWI-mapped wetland met the parameters of a U.S. Army Corps of Engineers (USACE)-defined wetland. This technical memorandum describes the methods used to conduct the wetland reconnaissance and summarizes results of the reconnaissance. Results and conclusions provided in this report represent SWCA's professional opinion based on our experience in southeastern New Mexico.

METHODS

SWCA received the Longview 1-21 well location from WPX on February 4, 2020. SWCA used this information to conduct the wetland reconnaissance within the portion of the NWI-mapped wetland adjacent to the Longview 1-21 well pad (reconnaissance area) on February 6, 2020 (Figure 2). The wetland reconnaissance was conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (1987 Manual) (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Supplemental Manual) (USACE 2008).[1] SWCA completed Arid West Supplement Manual data forms (Appendix A) for representative data points within the reconnaissance area (Figure 2).

[1] The Arid West Supplemental Manual presents wetland indicators, delineation guidance, and other information specific to the Arid West Region and takes precedence over the 1987 Manual for applications in this region where differences in the two manuals occur.

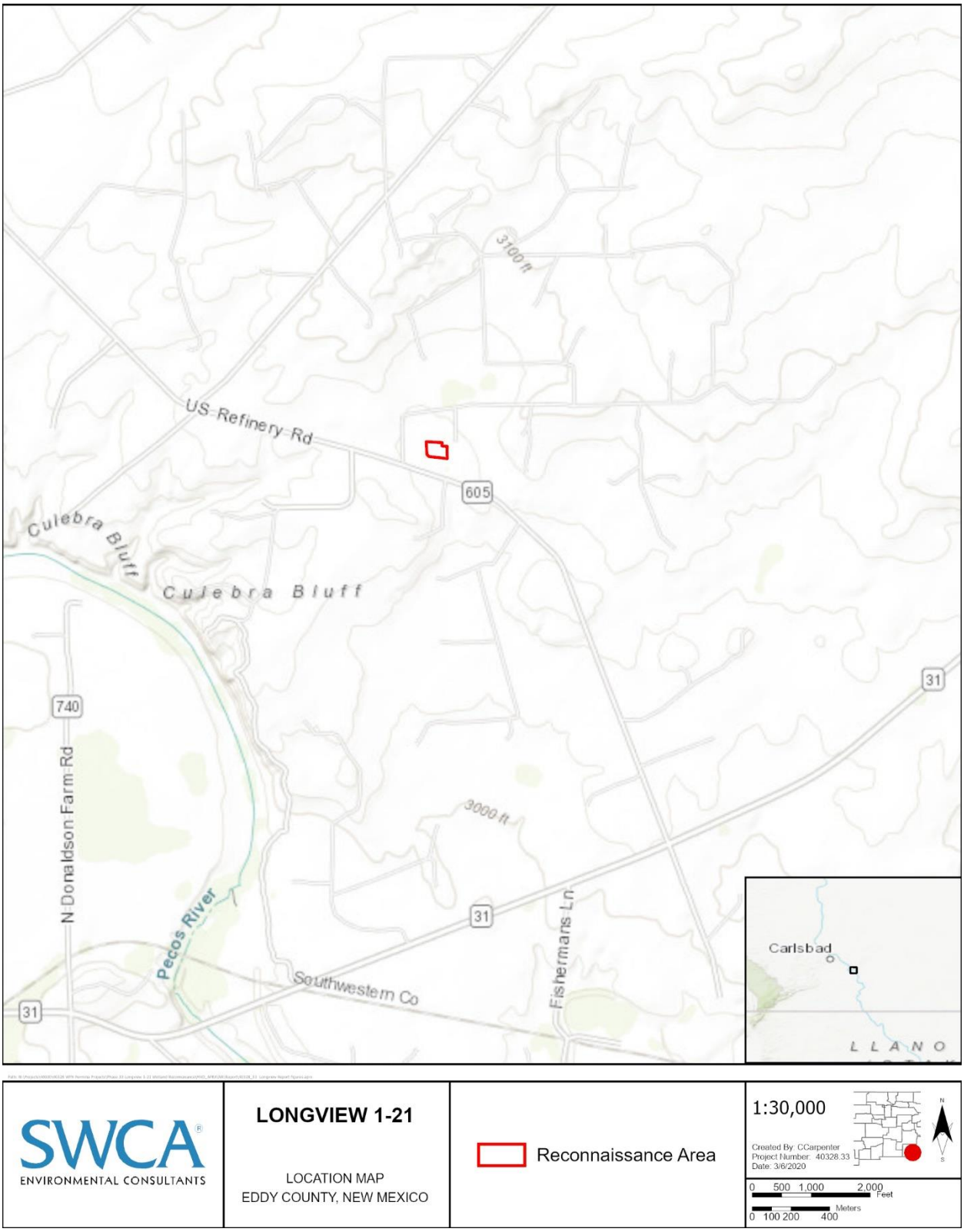


Figure 1. Location map.

Figure 2. Reconnaissance area and results map.

RECONNAISSANCE AREA DESCRIPTION

The reconnaissance area is located within the Chihuahuan Desert: Chihuahuan Basin and Playas Level IV ecoregion (Griffith et al. 2006). This ecoregion is comprised of desert shrublands and grasslands of creosotebush (*Larrea tridentata*), tarbush (*Flourensia cernua*), fourwing saltbush (*Atriplex canescens*), acacias (*Acacia* spp.), grama (*Bouteloua* spp.), and alkali sacaton (*Sporobolus airoides*) (Griffith et al. 2006).

The reconnaissance area is located within the Salt Lake watershed. Ground elevation within the reconnaissance area is approximately 3,055 feet above mean sea level. According to the Natural Resources Conservation Service (2019), there is one soil unit mapped within the reconnaissance area: Simona-Bippus complex, 0 to 5 percent slopes. This soil unit is a well-drained soil that is not categorized as hydric.

WETLAND RECONNAISSANCE RESULTS

SWCA completed Arid West Supplement Manual data forms (Appendix A) for three representative data points within the reconnaissance area, which are depicted on Figure 2. Photographs of these data point locations are provided in Appendix B. The reconnaissance area is comprised of a herbaceous upland and does not meet the USACE definition of a wetland. As a result, SWCA did not identify a USACE-defined wetland within the NWI-mapped wetland area adjacent to WPX's Longview 1-21 well pad.

REFERENCES

Griffith, G.E., J.M. Omernik, M.M. McGraw, G.Z Jacobi, C.M. Canavan, T.S. Schrader, D. Mercer, R. Hill, and B.C. Moran. 2006. Ecoregions of New Mexico (color poster with map, descriptive text, summary tables, and photographs). Map scale 1:1,400,000. Reston, Virginia, U.S. Geological Survey.

Natural Resources Conservation Service. 2019. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed March 6, 2020.

U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Research and Development Center, Wetlands Regulatory Assistance Program.

U.S. Fish and Wildlife Service. 2019. National Wetlands Inventory. Available at: https://www.fws.gov/wetlands/data/mapper.HTML. Accessed February 4, 2020.

APPENDIX A

U.S. Army Corps of Engineers
Wetland Determination Data Forms
Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Longview 1-21 City/County: Eddy County Sampling Date: 02/06/20

Applicant/Owner: WPX State: NM Sampling Point: Data Point 01

Investigator(s): Joanna Franks Section, Township, Range: S 01, T 23S, R 28E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): < 5%

Subregion (LRR): LRR-D Lat: 32.338969 Long: -104.046855 Datum: NAD 83

Soil Map Unit Name: Simona-Bippus complex, 0 to 5 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

No hydrophytic vegetation or wetland hydrology present. This data point is located within a herbaceous upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' x 10')			
1. Prosopis glandulosa	10	Yes	FACU
2. Gutierrezia sarothrae	2	No	UPL
3.			
4.			
5.			
	12 = Total Cover		
Herb Stratum (Plot size: 10' x 10')			
1. Muhlenbergia porteri	25	Yes	UPL
2. Heterotheca subaxillaris	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 58 % Cover of Biotic Crust n/a

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	32	x 5 =	160
Column Totals:	42 (A)		200 (B)

Prevalence Index = B/A = 4.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Hydrophytic vegetation is not present.

SOIL

Sampling Point: Data Point

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No field indicators of wetland hydrology are present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Longview 1-21 City/County: Eddy County Sampling Date: 02/06/20

Applicant/Owner: WPX State: NM Sampling Point: Data Point 02

Investigator(s): Joanna Franks Section, Township, Range: S 01, T 23S, R 28E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): < 5%

Subregion (LRR): LRR-D Lat: 32.338476 Long: -104.046033 Datum: NAD 83

Soil Map Unit Name: Simona-Bippus complex, 0 to 5 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

No hydrophytic vegetation or wetland hydrology present. This data point is located within a herbaceous upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10' x 10')			
1. Muhlenbergia porteri	55	Yes	UPL
2. Heterotheca subaxillaris	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust n/a

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	60	x 5 =	300
Column Totals:	60 (A)		300 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Hydrophytic vegetation is not present.

SOIL

Sampling Point: Data Point

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No field indicators of wetland hydrology are present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Longview 1-21 City/County: Eddy County Sampling Date: 02/06/20

Applicant/Owner: WPX State: NM Sampling Point: Data Point 03

Investigator(s): Joanna Franks Section, Township, Range: S 01, T 23S, R 28E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): < 5%

Subregion (LRR): LRR-D Lat: 32.338476 Long: -104.046033 Datum: NAD 83

Soil Map Unit Name: Simona-Bippus complex, 0 to 5 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

No hydrophytic vegetation or wetland hydrology present. This data point is located within a herbaceous upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10' x 10')			
1. Prosopis glandulosa	5	Yes	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 10' x 10')			
1. Muhlenbergia porteri	50	Yes	UPL
2. Heterotheca subaxillaris	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust n/a

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	55	x 5 =	275
Column Totals:	60 (A)		295 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Hydrophytic vegetation is not present.

SOIL

Sampling Point: Data Point

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No field indicators of wetland hydrology are present.

APPENDIX B

Photographic Log

Photograph 1. Overview photo of data point 1.

Photograph 2. Overview photo of data point 2.

Photograph 3. Overview photo of data point 3.

ATTACHMENT 4: Photographic Log

Eastern view of the release extent.

Project: 034819082	WPX Energy Permian, Inc. Longview Federal 1 #012H	LTE Advancing Opportunity
October 31, 2019	Photographic Log	

Western view of overspray north of pumpjack.

Project: 034819082	WPX Energy Permian, Inc. Longview Federal 1 #012H	LTE Advancing Opportunity
October 31, 2019	Photographic Log	

s

Western north of excavation area.

Project: 034819082	WPX Energy Permian, Inc. Longview Federal 1 #012H	Advancing Opportunity
December 18, 2019	Photographic Log	

Eastern view of the excavation area.

Project: 034819082	WPX Energy Permian, Inc. Longview Federal 1 #012H	LTE Advancing Opportunity
December 18, 2019	Photographic Log	

ATTACHMENT 5: Laboratory Analytical Reports

Analytical Report 642601

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Deep Fed 1-21

034819082

12-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

12-NOV-19

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

Reference: XENCO Report No(s): **642601**
Longview Deep Fed 1-21
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) 642601. 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. 642601 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 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	11-05-19 09:45	0.5 ft	642601-001
PH01A	S	11-05-19 09:47	1 ft	642601-002
PH0B	S	11-05-19 09:50	2 ft	642601-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Deep Fed 1-21

Project ID: *034819082*
Work Order Number(s): *642601*

Report Date: *12-NOV-19*
Date Received: *11/08/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106914 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 642594-001 S.

Batch: LBA-3106973 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 642601

LT Environmental, Inc., Arvada, CO

Project Name: Longview Deep Fed 1-21

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Nov-08-19 08:51 am
Report Date: 12-NOV-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	642601-001		642601-002		642601-003					
	Field Id:	PH01		PH01A		PH0B					
	Depth:	0.5- ft		1- ft		2- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Nov-05-19 09:45		Nov-05-19 09:47		Nov-05-19 09:50					
BTEX by EPA 8021B	***Extracted:***	Nov-08-19 09:11		Nov-08-19 09:11		Nov-08-19 09:11					
	Analyzed:	Nov-11-19 20:59		Nov-08-19 14:34		Nov-08-19 14:54					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.000998	0.000998	<0.000992	0.000992	<0.000998	0.000998				
Toluene		<0.000998	0.000998	<0.000992	0.000992	<0.000998	0.000998				
Ethylbenzene		0.00108	0.000998	0.00529	0.000992	<0.000998	0.000998				
m,p-Xylenes		0.00667	0.00200	0.00452	0.00198	<0.00200	0.00200				
o-Xylene		0.00473	0.000998	<0.000992	0.000992	<0.000998	0.000998				
Xylenes, Total		0.0114	0.000998	0.00452	0.000992	<0.000998	0.000998				
Total BTEX		0.0125	0.000998	0.00981	0.000992	<0.000998	0.000998				
Chloride by EPA 300	***Extracted:***	Nov-08-19 10:11		Nov-08-19 10:11		Nov-08-19 10:11					
	Analyzed:	Nov-08-19 13:31		Nov-08-19 13:13		Nov-08-19 13:19					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		6770	200	200	10.0	18.0	10.0				
TPH by SW8015 Mod	***Extracted:***	Nov-08-19 12:00		Nov-08-19 12:00		Nov-08-19 12:00					
	Analyzed:	Nov-08-19 15:43		Nov-08-19 16:03		Nov-08-19 16:23					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.8	49.8	<49.9	49.9				
Diesel Range Organics (DRO)		150	49.8	<49.8	49.8	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<49.8	49.8	<49.9	49.9				
Total GRO-DRO		150	49.8	<49.8	49.8	<49.9	49.9				
Total TPH		150	49.8	<49.8	49.8	<49.9	49.9				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-001	Date Collected:	11.05.19 09.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6770**	200	mg/kg	11.08.19 13.31		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 15.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**150**	49.8	mg/kg	11.08.19 15.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 15.43	U	1
Total GRO-DRO	PHC628	**150**	49.8	mg/kg	11.08.19 15.43		1
Total TPH	PHC635	**150**	49.8	mg/kg	11.08.19 15.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.08.19 15.43	
o-Terphenyl	84-15-1	113	%	70-135	11.08.19 15.43	

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-001	Date Collected:	11.05.19 09.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.11.19 20.59	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.11.19 20.59	U	1
Ethylbenzene	100-41-4	**0.00108**	0.000998	mg/kg	11.11.19 20.59		1
m,p-Xylenes	179601-23-1	**0.00667**	0.00200	mg/kg	11.11.19 20.59		1
o-Xylene	95-47-6	**0.00473**	0.000998	mg/kg	11.11.19 20.59		1
Xylenes, Total	1330-20-7	**0.0114**	0.000998	mg/kg	11.11.19 20.59		1
Total BTEX		**0.0125**	0.000998	mg/kg	11.11.19 20.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.11.19 20.59	
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.11.19 20.59	

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-002	Date Collected:	11.05.19 09.47	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**200**	10.0	mg/kg	11.08.19 13.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 16.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 16.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 16.03	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 16.03	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	11.08.19 16.03	
o-Terphenyl	84-15-1	111	%	70-135	11.08.19 16.03	

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-002	Date Collected:	11.05.19 09.47	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	11.08.19 14.34	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	11.08.19 14.34	U	1
Ethylbenzene	100-41-4	**0.00529**	0.000992	mg/kg	11.08.19 14.34		1
m,p-Xylenes	179601-23-1	**0.00452**	0.00198	mg/kg	11.08.19 14.34		1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	11.08.19 14.34	U	1
Xylenes, Total	1330-20-7	**0.00452**	0.000992	mg/kg	11.08.19 14.34		1
Total BTEX		**0.00981**	0.000992	mg/kg	11.08.19 14.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.08.19 14.34	
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.08.19 14.34	

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH0B**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-003	Date Collected:	11.05.19 09.50	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 10.11	Basis:	Wet Weight
Seq Number:	3106922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.0**	10.0	mg/kg	11.08.19 13.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.08.19 12.00	Basis:	Wet Weight
Seq Number:	3106914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.08.19 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.08.19 16.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.08.19 16.23	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.08.19 16.23	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.08.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.08.19 16.23	
o-Terphenyl	84-15-1	108	%	70-135	11.08.19 16.23	

Certificate of Analytical Results 642601

LT Environmental, Inc., Arvada, CO

Longview Deep Fed 1-21

Sample Id:	**PH0B**	Matrix:	Soil	Date Received:	11.08.19 08.51
Lab Sample Id:	642601-003	Date Collected:	11.05.19 09.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.08.19 09.11	Basis:	Wet Weight
Seq Number:	3106973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 14.54	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1
Xylenes, Total	1330-20-7	<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.08.19 14.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.08.19 14.54	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 14.54	

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 642601

LT Environmental, Inc.

Longview Deep Fed 1-21

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689889-1-BLK — LCS Sample Id: 7689889-1-BKS — LCSD Sample Id: 7689889-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	249	100	250	100	90-110	0	20	mg/kg	11.08.19 12:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642594-001 — MS Sample Id: 642594-001 S — MSD Sample Id: 642594-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	272	200	456	92	458	93	90-110	0	20	mg/kg	11.08.19 12:25	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106922 — Matrix: Soil — Date Prep: 11.08.19
Parent Sample Id: 642596-002 — MS Sample Id: 642596-002 S — MSD Sample Id: 642596-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2740	200	2950	105	2940	100	90-110	0	20	mg/kg	11.08.19 13:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106914 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689947-1-BLK — LCS Sample Id: 7689947-1-BKS — LCSD Sample Id: 7689947-1-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	905	91	921	92	70-135	2	35	mg/kg	11.08.19 12:21	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1030	103	70-135	2	35	mg/kg	11.08.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		120		121		70-135	%	11.08.19 12:21
o-Terphenyl	113		121		121		70-135	%	11.08.19 12:21

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106914 — Matrix: Solid — Date Prep: 11.08.19
MB Sample Id: 7689947-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.08.19 12:01	

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

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

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

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

Final 1.000

QC Summary 642601

LT Environmental, Inc.

Longview Deep Fed 1-21

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3106914 Matrix: Soil Date Prep: 11.08.19
Parent Sample Id: 642594-001 MS Sample Id: 642594-001 S MSD Sample Id: 642594-001 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	1100	110	892	89	70-135	21	35	mg/kg	11.08.19 13:20	
Diesel Range Organics (DRO)	<50.1	1000	1220	122	991	99	70-135	21	35	mg/kg	11.08.19 13:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	141	**	117		70-135	%	11.08.19 13:20
o-Terphenyl	139	**	118		70-135	%	11.08.19 13:20

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3106973 Matrix: Solid Date Prep: 11.08.19
MB Sample Id: 7689952-1-BLK LCS Sample Id: 7689952-1-BKS LCSD Sample Id: 7689952-1-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	0.101	101	0.114	114	70-130	12	35	mg/kg	11.08.19 10:35	
Toluene	<0.00100	0.100	0.114	114	0.126	126	70-130	10	35	mg/kg	11.08.19 10:35	
Ethylbenzene	<0.00100	0.100	0.103	103	0.115	115	71-129	11	35	mg/kg	11.08.19 10:35	
m,p-Xylenes	<0.00200	0.200	0.209	105	0.232	116	70-135	10	35	mg/kg	11.08.19 10:35	
o-Xylene	<0.00100	0.100	0.105	105	0.118	118	71-133	12	35	mg/kg	11.08.19 10:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		106		70-130	%	11.08.19 10:35
4-Bromofluorobenzene	105		104		110		70-130	%	11.08.19 10:35

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3106973 Matrix: Soil Date Prep: 11.08.19
Parent Sample Id: 642600-001 MS Sample Id: 642600-001 S MSD Sample Id: 642600-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000994	0.0994	0.0702	71	0.0689	69	70-130	2	35	mg/kg	11.08.19 11:57	X
Toluene	<0.000994	0.0994	0.0726	73	0.0695	70	70-130	4	35	mg/kg	11.08.19 11:57	
Ethylbenzene	0.00345	0.0994	0.0738	71	0.0714	68	71-129	3	35	mg/kg	11.08.19 11:57	X
m,p-Xylenes	0.00295	0.199	0.154	76	0.146	72	70-135	5	35	mg/kg	11.08.19 11:57	
o-Xylene	0.00132	0.0994	0.0760	75	0.0727	72	71-133	4	35	mg/kg	11.08.19 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	11.08.19 11:57
4-Bromofluorobenzene	114		111		70-130	%	11.08.19 11:57

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

Chain of Custody

Work Order No: 642601

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

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental	Company Name:	LT Environmental
Address:	920 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 Deep Fed 1-21	Turn Around	
Project Number:	034819082	Routine	☒
Project Location	Rural Eddy Co.	Rush:	5 day
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.5	Thermometer ID	T-NM-007
Received Intact:	(Yes) No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes (No) N/A	Total Containers:	3
Sample Custody Seals:	Yes (No) N/A		

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
	PH01	S	11/5/19	0945	0.5'	1	X	X	X	
	PH01A	S	11/5/19	0947	1'	1				
	PH01B	S	11/5/19	0950	2'	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		11/8/19 851	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/08/2019 08:51:00 AM

Work Order #: 642601

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/08/2019

Checklist reviewed by: Jessica Kramer Date: 11/08/2019

Jessica Kramer

Analytical Report 644209

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Deep Federal 1-21

034819082

26-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

26-NOV-19

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

Reference: XENCO Report No(s): **644209**
Longview Deep Federal 1-21
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) 644209. 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. 644209 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 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	11-20-19 17:05	1 ft	644209-001
FS02	S	11-20-19 17:07	1 ft	644209-002
FS03	S	11-20-19 17:10	1 ft	644209-003
FS04	S	11-20-19 17:15	1 - 1.5 ft	644209-004
FS05	S	11-20-19 17:20	1 - 1.5 ft	644209-005
FS06	S	11-20-19 17:25	1 - 2 ft	644209-006
FS07	S	11-20-19 17:30	1 - 2 ft	644209-007
FS08	S	11-20-19 17:35	2 ft	644209-008
FS09	S	11-20-19 17:40	1.5 - 2 ft	644209-009
FS10	S	11-20-19 17:45	1.5 - 2 ft	644209-010
SW01	S	11-20-19 17:50	0 - 2 ft	644209-011
SW02	S	11-20-19 17:52	0 - 2 ft	644209-012
SW03	S	11-20-19 17:55	0 - 2 ft	644209-013
SW04	S	11-20-19 17:57	0 - 2 ft	644209-014
SS01	S	11-20-19 18:10	ft	644209-015
SS02	S	11-20-19 18:15	ft	644209-016
SS03	S	11-20-19 18:20	ft	644209-017

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Deep Federal 1-21

Project ID: *034819082*
Work Order Number(s): *644209*

Report Date: *26-NOV-19*
Date Received: *11/22/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3108556 BTEX by EPA 8021B

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

Certificate of Analysis Summary 644209

LT Environmental, Inc., Arvada, CO

Project Name: Longview Deep Federal 1-21

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Nov-22-19 09:12 am
Report Date: 26-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644209-001		644209-002		644209-003		644209-004		644209-005		644209-006	
	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
	Depth:	1- ft		1- ft		1- ft		1-1.5 ft		1-1.5 ft		1-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-20-19 17:05		Nov-20-19 17:07		Nov-20-19 17:10		Nov-20-19 17:15		Nov-20-19 17:20		Nov-20-19 17:25	
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00	
	Analyzed:	Nov-23-19 23:20		Nov-23-19 23:40		Nov-24-19 00:00		Nov-24-19 00:20		Nov-24-19 00:40		Nov-24-19 01:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00402	0.00402	<0.00397	0.00397	<0.00398	0.00398	<0.00400	0.00400	<0.00399	0.00399	<0.00403	0.00403
o-Xylene		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Xylenes, Total		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Total BTEX		<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Nov-25-19 08:15		Nov-25-19 08:15		Nov-25-19 08:15		Nov-25-19 08:15		Nov-25-19 08:15		Nov-25-19 08:15	
	Analyzed:	Nov-25-19 10:59		Nov-25-19 11:05		Nov-25-19 11:12		Nov-25-19 11:19		Nov-25-19 11:25		Nov-25-19 11:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		573	4.99	118	4.95	110	4.95	50.3	5.05	84.6	4.98	90.6	5.00
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00	
	Analyzed:	Nov-25-19 14:45		Nov-25-19 15:49		Nov-25-19 16:10		Nov-25-19 16:31		Nov-25-19 16:53		Nov-25-19 17:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	52.0	49.9	264	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	53.8	50.0
Total GRO-DRO		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	52.0	49.9	264	50.0
Total TPH		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	52.0	49.9	318	50.0

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 644209

LT Environmental, Inc., Arvada, CO

Project Name: Longview Deep Federal 1-21

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Nov-22-19 09:12 am
Report Date: 26-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644209-007		644209-008		644209-009		644209-010		644209-011		644209-012	
	Field Id:	FS07		FS08		FS09		FS10		SW01		SW02	
	Depth:	1-2 ft		2- ft		1.5-2 ft		1.5-2 ft		0-2 ft		0-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-20-19 17:30		Nov-20-19 17:35		Nov-20-19 17:40		Nov-20-19 17:45		Nov-20-19 17:50		Nov-20-19 17:52	
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00	
	Analyzed:	Nov-24-19 01:20		Nov-24-19 01:40		Nov-24-19 02:01		Nov-24-19 02:21		Nov-24-19 03:39		Nov-24-19 03:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00401	0.00401	<0.00396	0.00396	<0.00403	0.00403	<0.00400	0.00400
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
Xylenes, Total		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Nov-25-19 08:15		Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55	
	Analyzed:	Nov-25-19 11:39		Nov-25-19 12:22		Nov-25-19 12:38		Nov-25-19 12:43		Nov-25-19 12:48		Nov-25-19 12:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		132	5.03	97.4	5.00	101	5.03	45.2	4.97	125	5.00	101	5.04
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00	
	Analyzed:	Nov-25-19 17:35		Nov-25-19 17:56		Nov-25-19 18:17		Nov-25-19 18:39		Nov-25-19 19:21		Nov-25-19 19:42	
	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	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		70.8	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Total GRO-DRO		70.8	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8
Total TPH		70.8	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 644209

LT Environmental, Inc., Arvada, CO

Project Name: Longview Deep Federal 1-21

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Nov-22-19 09:12 am
Report Date: 26-NOV-19
Project Manager: Jessica Kramer

Analysis Requested																	
	Lab Id:	644209-013		644209-014		644209-015		644209-016		644209-017							
	Field Id:	SW03		SW04		SS01		SS02		SS03							
	Depth:	0-2 ft		0-2 ft													
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Nov-20-19 17:55		Nov-20-19 17:57		Nov-20-19 18:10		Nov-20-19 18:15		Nov-20-19 18:20							
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00		Nov-23-19 16:00							
	Analyzed:	Nov-24-19 04:19		Nov-24-19 04:39		Nov-24-19 05:00		Nov-24-19 05:20		Nov-24-19 05:40							
	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	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00402	0.00402						
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
Xylenes, Total		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201						
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55		Nov-25-19 11:55							
	Analyzed:	Nov-25-19 13:10		Nov-25-19 13:15		Nov-25-19 13:20		Nov-25-19 13:26		Nov-25-19 13:36							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		62.8	4.96	76.1	5.05	31.6	4.98	292	25.0	203	5.00						
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00		Nov-25-19 12:00							
	Analyzed:	Nov-25-19 20:04		Nov-25-19 20:25		Nov-25-19 20:46		Nov-25-19 21:07		Nov-25-19 21:28							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0						
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	117	50.0						
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0						
Total GRO-DRO		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	117	50.0						
Total TPH		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	117	50.0						

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Jessica Kramer
Project Assistant

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-001	Date Collected:	11.20.19 17.05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**573**	4.99	mg/kg	11.25.19 10.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.25.19 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.25.19 14.45	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.25.19 14.45	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.25.19 14.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	11.25.19 14.45	
o-Terphenyl	84-15-1	105	%	70-135	11.25.19 14.45	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-001	Date Collected:	11.20.19 17.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.23.19 23.20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.23.19 23.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.23.19 23.20	
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.23.19 23.20	

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LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-002	Date Collected:	11.20.19 17.07	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**118**	4.95	mg/kg	11.25.19 11.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.25.19 15.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.25.19 15.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.25.19 15.49	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.25.19 15.49	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.25.19 15.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.25.19 15.49	
o-Terphenyl	84-15-1	119	%	70-135	11.25.19 15.49	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-002	Date Collected:	11.20.19 17.07	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.23.19 23.40	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.23.19 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.23.19 23.40	
1,4-Difluorobenzene	540-36-3	114	%	70-130	11.23.19 23.40	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-003	Date Collected:	11.20.19 17.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	4.95	mg/kg	11.25.19 11.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 16.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.25.19 16.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.25.19 16.10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.25.19 16.10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.25.19 16.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.25.19 16.10	
o-Terphenyl	84-15-1	121	%	70-135	11.25.19 16.10	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-003	Date Collected:	11.20.19 17.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.24.19 00.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.24.19 00.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.24.19 00.00	
1,4-Difluorobenzene	540-36-3	110	%	70-130	11.24.19 00.00	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-004	Date Collected:	11.20.19 17.15	Sample Depth:	1 - 1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**50.3**	5.05	mg/kg	11.25.19 11.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 16.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 16.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 16.31	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 16.31	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.25.19 16.31	
o-Terphenyl	84-15-1	117	%	70-135	11.25.19 16.31	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-004	Date Collected:	11.20.19 17.15	Sample Depth:	1 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.24.19 00.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 00.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	11.24.19 00.20	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.24.19 00.20	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-005	Date Collected:	11.20.19 17.20	Sample Depth:	1 - 1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**84.6**	4.98	mg/kg	11.25.19 11.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 16.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**52.0**	49.9	mg/kg	11.25.19 16.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 16.53	U	1
Total GRO-DRO	PHC628	**52.0**	49.9	mg/kg	11.25.19 16.53		1
Total TPH	PHC635	**52.0**	49.9	mg/kg	11.25.19 16.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.25.19 16.53	
o-Terphenyl	84-15-1	118	%	70-135	11.25.19 16.53	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-005	Date Collected:	11.20.19 17.20	Sample Depth:	1 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.24.19 00.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 00.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.24.19 00.40	
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.24.19 00.40	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-006	Date Collected:	11.20.19 17.25	Sample Depth:	1 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**90.6**	5.00	mg/kg	11.25.19 11.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 17.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**264**	50.0	mg/kg	11.25.19 17.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**53.8**	50.0	mg/kg	11.25.19 17.14		1
Total GRO-DRO	PHC628	**264**	50.0	mg/kg	11.25.19 17.14		1
Total TPH	PHC635	**318**	50.0	mg/kg	11.25.19 17.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	11.25.19 17.14	
o-Terphenyl	84-15-1	125	%	70-135	11.25.19 17.14	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-006	Date Collected:	11.20.19 17.25	Sample Depth:	1 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.24.19 01.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.24.19 01.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.24.19 01.00	
4-Bromofluorobenzene	460-00-4	102	%	70-130	11.24.19 01.00	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-007	Date Collected:	11.20.19 17.30	Sample Depth:	1 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 08.15	Basis:	Wet Weight
Seq Number:	3108590			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**132**	5.03	mg/kg	11.25.19 11.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 17.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**70.8**	49.9	mg/kg	11.25.19 17.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 17.35	U	1
Total GRO-DRO	PHC628	**70.8**	49.9	mg/kg	11.25.19 17.35		1
Total TPH	PHC635	**70.8**	49.9	mg/kg	11.25.19 17.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	11.25.19 17.35	
o-Terphenyl	84-15-1	84	%	70-135	11.25.19 17.35	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-007	Date Collected:	11.20.19 17.30	Sample Depth:	1 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.24.19 01.20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.24.19 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	11.24.19 01.20	
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.24.19 01.20	

Certificate of Analytical Results 644209

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Longview Deep Federal 1-21

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-008	Date Collected:	11.20.19 17.35	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**97.4**	5.00	mg/kg	11.25.19 12.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 17.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 17.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 17.56	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 17.56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	11.25.19 17.56	
o-Terphenyl	84-15-1	85	%	70-135	11.25.19 17.56	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-008	Date Collected:	11.20.19 17.35	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.24.19 01.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.24.19 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.24.19 01.40	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.24.19 01.40	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-009	Date Collected:	11.20.19 17.40	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**101**	5.03	mg/kg	11.25.19 12.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 18.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.25.19 18.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.25.19 18.17	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.25.19 18.17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.25.19 18.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	11.25.19 18.17	
o-Terphenyl	84-15-1	87	%	70-135	11.25.19 18.17	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-009	Date Collected:	11.20.19 17.40	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.24.19 02.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 02.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.24.19 02.01	
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.24.19 02.01	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-010	Date Collected:	11.20.19 17.45	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.2**	4.97	mg/kg	11.25.19 12.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 18.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 18.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 18.39	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 18.39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 18.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	11.25.19 18.39	
o-Terphenyl	84-15-1	86	%	70-135	11.25.19 18.39	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-010	Date Collected:	11.20.19 17.45	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.24.19 02.21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.24.19 02.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.24.19 02.21	
1,4-Difluorobenzene	540-36-3	113	%	70-130	11.24.19 02.21	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-011	Date Collected:	11.20.19 17.50	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	5.00	mg/kg	11.25.19 12.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 19.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 19.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 19.21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 19.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	11.25.19 19.21	
o-Terphenyl	84-15-1	88	%	70-135	11.25.19 19.21	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-011	Date Collected:	11.20.19 17.50	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.24.19 03.39	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.24.19 03.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	11.24.19 03.39	
1,4-Difluorobenzene	540-36-3	110	%	70-130	11.24.19 03.39	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-012	Date Collected:	11.20.19 17.52	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**101**	5.04	mg/kg	11.25.19 12.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.25.19 19.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.25.19 19.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.25.19 19.42	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.25.19 19.42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.25.19 19.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	11.25.19 19.42	
o-Terphenyl	84-15-1	89	%	70-135	11.25.19 19.42	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-012	Date Collected:	11.20.19 17.52	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.24.19 03.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 03.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.24.19 03.59	
4-Bromofluorobenzene	460-00-4	102	%	70-130	11.24.19 03.59	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-013	Date Collected:	11.20.19 17.55	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**62.8**	4.96	mg/kg	11.25.19 13.10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 20.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.25.19 20.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.25.19 20.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.25.19 20.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.25.19 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	11.25.19 20.04	
o-Terphenyl	84-15-1	91	%	70-135	11.25.19 20.04	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-013	Date Collected:	11.20.19 17.55	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.24.19 04.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	11.24.19 04.19	
1,4-Difluorobenzene	540-36-3	111	%	70-130	11.24.19 04.19	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-014	Date Collected:	11.20.19 17.57	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**76.1**	5.05	mg/kg	11.25.19 13.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 20.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 20.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 20.25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 20.25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	11.25.19 20.25	
o-Terphenyl	84-15-1	113	%	70-135	11.25.19 20.25	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-014	Date Collected:	11.20.19 17.57	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.24.19 04.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.24.19 04.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.24.19 04.39	
1,4-Difluorobenzene	540-36-3	113	%	70-130	11.24.19 04.39	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-015	Date Collected:	11.20.19 18.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.6**	4.98	mg/kg	11.25.19 13.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.25.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.25.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.25.19 20.46	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.25.19 20.46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.25.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.25.19 20.46	
o-Terphenyl	84-15-1	120	%	70-135	11.25.19 20.46	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-015	Date Collected:	11.20.19 18.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.24.19 05.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.24.19 05.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	11.24.19 05.00	
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.24.19 05.00	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id: **SS02** Matrix: Soil Date Received:11.22.19 09.12

Lab Sample Id: 644209-016 Date Collected: 11.20.19 18.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 11.25.19 11.55 Basis: Wet Weight

Seq Number: 3108630 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**292**	25.0	mg/kg	11.25.19 13.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 11.25.19 12.00 Basis: Wet Weight

Seq Number: 3108710 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.25.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.25.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.25.19 21.07	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.25.19 21.07	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.25.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.25.19 21.07	
o-Terphenyl	84-15-1	116	%	70-135	11.25.19 21.07	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-016	Date Collected:	11.20.19 18.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.24.19 05.20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.24.19 05.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.24.19 05.20	
1,4-Difluorobenzene	540-36-3	83	%	70-130	11.24.19 05.20	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-017	Date Collected:	11.20.19 18.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.25.19 11.55	Basis:	Wet Weight
Seq Number:	3108630			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**203**	5.00	mg/kg	11.25.19 13.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	11.25.19 12.00	Basis:	Wet Weight
Seq Number:	3108710			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.25.19 21.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**117**	50.0	mg/kg	11.25.19 21.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.25.19 21.28	U	1
Total GRO-DRO	PHC628	**117**	50.0	mg/kg	11.25.19 21.28		1
Total TPH	PHC635	**117**	50.0	mg/kg	11.25.19 21.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.25.19 21.28	
o-Terphenyl	84-15-1	118	%	70-135	11.25.19 21.28	

Certificate of Analytical Results 644209

LT Environmental, Inc., Arvada, CO

Longview Deep Federal 1-21

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	11.22.19 09.12
Lab Sample Id:	644209-017	Date Collected:	11.20.19 18.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	11.23.19 16.00	Basis:	Wet Weight
Seq Number:	3108556			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.24.19 05.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.24.19 05.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.24.19 05.40	
1,4-Difluorobenzene	540-36-3	112	%	70-130	11.24.19 05.40	

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 644209

LT Environmental, Inc.

Longview Deep Federal 1-21

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108590 — Matrix: Solid — Date Prep: 11.25.19
MB Sample Id: 7691081-1-BLK — LCS Sample Id: 7691081-1-BKS — LCSD Sample Id: 7691081-1-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	246	98	246	98	90-110	0	20	mg/kg	11.25.19 08:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108630 — Matrix: Solid — Date Prep: 11.25.19
MB Sample Id: 7691116-1-BLK — LCS Sample Id: 7691116-1-BKS — LCSD Sample Id: 7691116-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	234	94	234	94	90-110	0	20	mg/kg	11.25.19 12:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108590 — Matrix: Soil — Date Prep: 11.25.19
Parent Sample Id: 643943-002 — MS Sample Id: 643943-002 S — MSD Sample Id: 643943-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	378	198	579	102	580	102	90-110	0	20	mg/kg	11.25.19 08:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108590 — Matrix: Soil — Date Prep: 11.25.19
Parent Sample Id: 644291-002 — MS Sample Id: 644291-002 S — MSD Sample Id: 644291-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	109	198	320	107	317	105	90-110	1	20	mg/kg	11.25.19 10:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108630 — Matrix: Soil — Date Prep: 11.25.19
Parent Sample Id: 644209-008 — MS Sample Id: 644209-008 S — MSD Sample Id: 644209-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	97.4	200	305	104	296	99	90-110	3	20	mg/kg	11.25.19 12:27	

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

QC Summary 644209

LT Environmental, Inc.

Longview Deep Federal 1-21

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3108630 Matrix: Soil Date Prep: 11.25.19
Parent Sample Id: 644209-017 MS Sample Id: 644209-017 S MSD Sample Id: 644209-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	203	200	401	99	402	100	90-110	0	20	mg/kg	11.25.19 13:42	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3108710 Matrix: Solid Date Prep: 11.25.19
MB Sample Id: 7691143-1-BLK LCS Sample Id: 7691143-1-BKS LCSD Sample Id: 7691143-1-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	987	99	965	97	70-135	2	20	mg/kg	11.25.19 12:42	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	994	99	70-135	2	20	mg/kg	11.25.19 12:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		101		100		70-135	%	11.25.19 12:42
o-Terphenyl	110		100		88		70-135	%	11.25.19 12:42

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3108710 Matrix: Solid Date Prep: 11.25.19
MB Sample Id: 7691143-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.25.19 12:21	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3108710 Matrix: Soil Date Prep: 11.25.19
Parent Sample Id: 644209-001 MS Sample Id: 644209-001 S MSD Sample Id: 644209-001 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	1040	104	1070	107	70-135	3	20	mg/kg	11.25.19 15:06	
Diesel Range Organics (DRO)	40.0	998	1070	103	1120	108	70-135	5	20	mg/kg	11.25.19 15:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		115		70-135	%	11.25.19 15:06
o-Terphenyl	110		116		70-135	%	11.25.19 15:06

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 644209

LT Environmental, Inc.

Longview Deep Federal 1-21

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

Seq Number: 3108556 Matrix: Solid Date Prep: 11.23.19

MB Sample Id: 7691100-1-BLK LCS Sample Id: 7691100-1-BKS LCSD Sample Id: 7691100-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.115	115	70-130	7	35	mg/kg	11.23.19 21:20	
Toluene	<0.00200	0.100	0.100	100	0.107	107	70-130	7	35	mg/kg	11.23.19 21:20	
Ethylbenzene	<0.00200	0.100	0.103	103	0.110	110	70-130	7	35	mg/kg	11.23.19 21:20	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.225	113	70-130	7	35	mg/kg	11.23.19 21:20	
o-Xylene	<0.00200	0.100	0.104	104	0.111	111	70-130	7	35	mg/kg	11.23.19 21:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		110		111		70-130	%	11.23.19 21:20
4-Bromofluorobenzene	97		102		102		70-130	%	11.23.19 21:20

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

Seq Number: 3108556 Matrix: Soil Date Prep: 11.23.19

Parent Sample Id: 644209-001 MS Sample Id: 644209-001 S MSD Sample Id: 644209-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0941	94	0.0990	99	70-130	5	35	mg/kg	11.23.19 22:00	
Toluene	<0.00200	0.0998	0.0878	88	0.0932	93	70-130	6	35	mg/kg	11.23.19 22:00	
Ethylbenzene	<0.00200	0.0998	0.0883	88	0.0942	94	70-130	6	35	mg/kg	11.23.19 22:00	
m,p-Xylenes	<0.00399	0.200	0.180	90	0.193	97	70-130	7	35	mg/kg	11.23.19 22:00	
o-Xylene	<0.00200	0.0998	0.0897	90	0.0958	96	70-130	7	35	mg/kg	11.23.19 22:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		114		70-130	%	11.23.19 22:00
4-Bromofluorobenzene	108		113		70-130	%	11.23.19 22:00

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: 444209

Page 1 of 2

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental	Company Name:	LT Environmental
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 Deep Federal 1-21	Turn Around	
Project Number:	034819082	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):	1.4	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:	17

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	FS01	S	11/20/19	1705	1'	1			
	FS02			1707	1'	1			
	FS03			1710	1'	1			
	FS04			1715	1-1.5'	1			
	FS05			1720	1-1.5'	1			
	FS06			1725	1-2'	1			
	FS07			1730	1-2'	1			
	FS08			1735	2'	1			
	FS09			1740	1.5-2'	1			
	FS10			1745	1.5-2'	1			

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		11/21/19 @ 1850	2		
		11/22/19 9:05	4		11/22/19 9:12
			6		

Revised Date 022619 Rev. 2019.1

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: 644209

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental	Company Name:	LT Environmental
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 Deep Federal 1-21	Turn Around	
Project Number:	034819082	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):		Thermometer ID	
Received Intact:	Yes No		
Cooler Custody Seals:	Yes ~~No~~ N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

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
	SW01	S	11/20/19	1750	0-2'	1				
	SW02	S		1752	0-2'	1				
	SW03	S		1755	0-2'	1				
	SW04	S		1757	0-2'	1				
	SS01	S		1810	surface	1				discrete
	SS02	S		1815		1				discrete
	SS03	S		1820		1				discrete

ANALYSIS REQUEST

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers		11/21/19 1850	2		
3			11/22/19 9:05	4		11/22/19 9:12
5				6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number : 52993

Date/Time: 11.22.2019
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
644209-001	S	FS01	11.20.2019 17:05	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-001	S	FS01	11.20.2019 17:05	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-001	S	FS01	11.20.2019 17:05	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-002	S	FS02	11.20.2019 17:07	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-002	S	FS02	11.20.2019 17:07	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-002	S	FS02	11.20.2019 17:07	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-003	S	FS03	11.20.2019 17:10	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-003	S	FS03	11.20.2019 17:10	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-003	S	FS03	11.20.2019 17:10	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-004	S	FS04	11.20.2019 17:15	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-004	S	FS04	11.20.2019 17:15	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-004	S	FS04	11.20.2019 17:15	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-005	S	FS05	11.20.2019 17:20	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-005	S	FS05	11.20.2019 17:20	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-005	S	FS05	11.20.2019 17:20	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-006	S	FS06	11.20.2019 17:25	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-006	S	FS06	11.20.2019 17:25	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-006	S	FS06	11.20.2019 17:25	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-007	S	FS07	11.20.2019 17:30	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-007	S	FS07	11.20.2019 17:30	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-007	S	FS07	11.20.2019 17:30	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-008	S	FS08	11.20.2019 17:35	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-008	S	FS08	11.20.2019 17:35	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-008	S	FS08	11.20.2019 17:35	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-009	S	FS09	11.20.2019 17:40	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	

Inter-Office Shipment

IOS Number : 52993

Date/Time:	11.22.2019	Created by:	Elizabeth Mcclellan	Please send report to:	Jessica Kramer
Lab# From:	**Carlsbad**	Delivery Priority:		Address:	1089 N Canal Street
Lab# To:	**Midland**	Air Bill No.:		E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
644209-009	S	FS09	11.20.2019 17:40	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-009	S	FS09	11.20.2019 17:40	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-010	S	FS10	11.20.2019 17:45	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-010	S	FS10	11.20.2019 17:45	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-010	S	FS10	11.20.2019 17:45	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-011	S	SW01	11.20.2019 17:50	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-011	S	SW01	11.20.2019 17:50	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-011	S	SW01	11.20.2019 17:50	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-012	S	SW02	11.20.2019 17:52	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-012	S	SW02	11.20.2019 17:52	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-012	S	SW02	11.20.2019 17:52	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-013	S	SW03	11.20.2019 17:55	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-013	S	SW03	11.20.2019 17:55	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-013	S	SW03	11.20.2019 17:55	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-014	S	SW04	11.20.2019 17:57	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-014	S	SW04	11.20.2019 17:57	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-014	S	SW04	11.20.2019 17:57	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-015	S	SS01	11.20.2019 18:10	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-015	S	SS01	11.20.2019 18:10	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-015	S	SS01	11.20.2019 18:10	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-016	S	SS02	11.20.2019 18:15	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	
644209-016	S	SS02	11.20.2019 18:15	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	
644209-016	S	SS02	11.20.2019 18:15	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-017	S	SS03	11.20.2019 18:20	E300_CL	Chloride by EPA 300	11.29.2019	05.18.2020	JKR	CL	
644209-017	S	SS03	11.20.2019 18:20	SW8015MOD_NM	TPH by SW8015 Mod	11.29.2019	12.04.2019	JKR	GRO-DRO PHCC10C28	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number : 52993

Date/Time:	11.22.2019	Created by:	Elizabeth Mcclellan	Please send report to:	Jessica Kramer
Lab# From:	**Carlsbad**	Delivery Priority:		Address:	1089 N Canal Street
Lab# To:	**Midland**	Air Bill No.:		E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
644209-017	S	SS03	11.20.2019 18:20	SW8021B	BTEX by EPA 8021B	11.29.2019	12.04.2019	JKR	BZ BZME EBZ XYLENE	

Inter Office Shipment or Sample Comments:

Relinquished By: 

Elizabeth McClellan

Date Relinquished: 11.22.2019

Received By: 

Jessica Kramer

Date Received: 11.25.2019

Cooler Temperature:

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 52993

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

Sent By: Elizabeth McClellan **Date Sent:** 11.22.2019 12.11 PM

Received By: Jessica Kramer **Date Received:** 11.25.2019 08.00 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Jessica Kramer Date: 11.25.2019

Jessica Kramer

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/22/2019 09:12:00 AM

Work Order #: 644209

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/22/2019

Checklist reviewed by: Jessica Kramer Date: 11/23/2019

Jessica Kramer

Analytical Report 647862

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 1-21

034819034

06-JAN-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

06-JAN-20

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

Reference: XENCO Report No(s): **647862**
Longview Federal 1-21
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) 647862. 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. 647862 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Holly Taylor

Holly Taylor
Project Manager

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

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

Sample Cross Reference 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS06A	S	01-02-20 12:45	2 ft	647862-001
SW05	S	01-02-20 12:50	0 - 2 ft	647862-002
SW06	S	01-02-20 12:55	0 - 2 ft	647862-003
SW07	S	01-02-20 13:00	0 - 2 ft	647862-004
FS11	S	01-02-20 13:05	0.5 ft	647862-005
FS12	S	01-02-20 13:10	0.5 ft	647862-006
FS13	S	01-02-20 13:15	2 ft	647862-007
FS14	S	01-02-20 13:20	2 ft	647862-008
FS15	S	01-02-20 13:25	2 ft	647862-009
FS16	S	01-02-20 13:30	2 ft	647862-010

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Longview Federal 1-21

Project ID: *034819034*
Work Order Number(s): *647862*

Report Date: *06-JAN-20*
Date Received: *01/03/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112361 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3112379 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 647862-002.

Certificate of Analysis Summary 647862

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 1-21

Project Id: 034819034
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Jan-03-20 11:40 am
Report Date: 06-JAN-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	647862-001		647862-002		647862-003		647862-004		647862-005		647862-006	
	Field Id:	FS06A		SW05		SW06		SW07		FS11		FS12	
	Depth:	2- ft		0-2 ft		0-2 ft		0-2 ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-02-20 12:45		Jan-02-20 12:50		Jan-02-20 12:55		Jan-02-20 13:00		Jan-02-20 13:05		Jan-02-20 13:10	
BTEX by EPA 8021B	***Extracted:***	Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30	
	Analyzed:	Jan-03-20 16:00		Jan-03-20 16:17		Jan-03-20 16:35		Jan-03-20 16:52		Jan-03-20 17:10		Jan-03-20 17:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
m,p-Xylenes		<0.00396	0.00396	<0.00399	0.00399	<0.00398	0.00398	<0.00397	0.00397	<0.00398	0.00398	<0.00394	0.00394
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
Xylenes, Total		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00199	0.00199	<0.00197	0.00197
Chloride by EPA 300	***Extracted:***	Jan-03-20 14:17		Jan-03-20 14:17		Jan-03-20 14:17		Jan-03-20 14:17		Jan-03-20 14:17		Jan-03-20 14:17	
	Analyzed:	Jan-03-20 16:50		Jan-03-20 16:56		Jan-03-20 17:01		Jan-03-20 17:07		Jan-03-20 17:13		Jan-03-20 17:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		192	9.98	147	9.92	312	10.0	2040	10.0	285	9.98	285	9.98
TPH by SW8015 Mod	***Extracted:***	Jan-03-20 13:00		Jan-03-20 13:00		Jan-03-20 13:00		Jan-03-20 13:00		Jan-03-20 13:00		Jan-03-20 13:00	
	Analyzed:	Jan-03-20 18:14		Jan-03-20 18:34		Jan-03-20 18:34		Jan-03-20 18:54		Jan-03-20 18:54		Jan-03-20 19:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.9	49.9	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Diesel Range Organics (DRO)		<50.2	50.2	<49.9	49.9	<50.2	50.2	93.6	50.3	<50.2	50.2	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<49.9	49.9	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Total GRO-DRO		<50.2	50.2	<49.9	49.9	<50.2	50.2	93.6	50.3	<50.2	50.2	<50.2	50.2
Total TPH		<50.2	50.2	<49.9	49.9	<50.2	50.2	93.6	50.3	<50.2	50.2	<50.2	50.2

Holly Taylor
Project Manager

Certificate of Analysis Summary 647862

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 1-21

Project Id: 034819034
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Fri Jan-03-20 11:40 am
Report Date: 06-JAN-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	647862-007		647862-008		647862-009		647862-010					
	Field Id:	FS13		FS14		FS15		FS16					
	Depth:	2- ft		2- ft		2- ft		2- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jan-02-20 13:15		Jan-02-20 13:20		Jan-02-20 13:25		Jan-02-20 13:30					
BTEX by EPA 8021B	***Extracted:***	Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30					
	Analyzed:	Jan-03-20 17:44		Jan-03-20 18:02		Jan-03-20 18:19		Jan-03-20 18:37					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
m,p-Xylenes		<0.00401	0.00401	<0.00395	0.00395	<0.00393	0.00393	<0.00399	0.00399				
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
Xylenes, Total		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00196	0.00196	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Jan-03-20 13:24		Jan-03-20 13:24		Jan-03-20 13:24		Jan-03-20 13:24					
	Analyzed:	Jan-03-20 17:59		Jan-03-20 18:17		Jan-03-20 18:29		Jan-03-20 18:35					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		252	9.94	328	9.96	1900	10.0	466	10.0				
TPH by SW8015 Mod	***Extracted:***	Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30		Jan-03-20 13:30					
	Analyzed:	Jan-03-20 19:54		Jan-03-20 20:34		Jan-03-20 20:34		Jan-03-20 20:54					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.8	49.8	<50.2	50.2	<50.0	50.0				
Diesel Range Organics (DRO)		<50.2	50.2	<49.8	49.8	<50.2	50.2	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<49.8	49.8	<50.2	50.2	<50.0	50.0				
Total GRO-DRO		<50.2	50.2	<49.8	49.8	<50.2	50.2	<50.0	50.0				
Total TPH		<50.2	50.2	<49.8	49.8	<50.2	50.2	<50.0	50.0				

Holly Taylor
Project Manager

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS06A**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-001	Date Collected:	01.02.20 12.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**192**	9.98	mg/kg	01.03.20 16.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 18.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 18.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 18.14	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 18.14	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 18.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.03.20 18.14	
o-Terphenyl	84-15-1	105	%	70-135	01.03.20 18.14	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS06A**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-001	Date Collected:	01.02.20 12.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.03.20 16.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.03.20 16.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.03.20 16.00	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.03.20 16.00	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-002	Date Collected:	01.02.20 12.50	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**147**	9.92	mg/kg	01.03.20 16.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.03.20 18.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.03.20 18.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.03.20 18.34	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.03.20 18.34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.03.20 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	01.03.20 18.34	
o-Terphenyl	84-15-1	136	%	70-135	01.03.20 18.34	**

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-002	Date Collected:	01.02.20 12.50	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.03.20 16.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.03.20 16.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.03.20 16.17	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.03.20 16.17	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-003	Date Collected:	01.02.20 12.55	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**312**	10.0	mg/kg	01.03.20 17.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 18.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 18.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 18.34	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 18.34	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.03.20 18.34	
o-Terphenyl	84-15-1	102	%	70-135	01.03.20 18.34	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-003	Date Collected:	01.02.20 12.55	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.03.20 16.35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.03.20 16.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.03.20 16.35	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.03.20 16.35	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-004	Date Collected:	01.02.20 13.00	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2040**	10.0	mg/kg	01.03.20 17.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.03.20 18.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**93.6**	50.3	mg/kg	01.03.20 18.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.03.20 18.54	U	1
Total GRO-DRO	PHC628	**93.6**	50.3	mg/kg	01.03.20 18.54		1
Total TPH	PHC635	**93.6**	50.3	mg/kg	01.03.20 18.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.03.20 18.54	
o-Terphenyl	84-15-1	114	%	70-135	01.03.20 18.54	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-004	Date Collected:	01.02.20 13.00	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	01.03.20 16.52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.03.20 16.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.03.20 16.52	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.03.20 16.52	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-005	Date Collected:	01.02.20 13.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**285**	9.98	mg/kg	01.03.20 17.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 18.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 18.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 18.54	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 18.54	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 18.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.03.20 18.54	
o-Terphenyl	84-15-1	104	%	70-135	01.03.20 18.54	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-005	Date Collected:	01.02.20 13.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.03.20 17.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.03.20 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.03.20 17.10	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.03.20 17.10	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-006	Date Collected:	01.02.20 13.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 14.17	Basis:	Wet Weight
Seq Number:	3112365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**285**	9.98	mg/kg	01.03.20 17.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.00	Basis:	Wet Weight
Seq Number:	3112379				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 19.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 19.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 19.14	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 19.14	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 19.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	01.03.20 19.14	
o-Terphenyl	84-15-1	113	%	70-135	01.03.20 19.14	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-006	Date Collected:	01.02.20 13.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	01.03.20 17.27	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1
Xylenes, Total	1330-20-7	<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1
Total BTEX		<0.00197	0.00197	mg/kg	01.03.20 17.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.03.20 17.27	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.03.20 17.27	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-007	Date Collected:	01.02.20 13.15	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.24	Basis:	Wet Weight
Seq Number:	3112367				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**252**	9.94	mg/kg	01.03.20 17.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 19.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 19.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 19.54	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 19.54	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 19.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.03.20 19.54	
o-Terphenyl	84-15-1	120	%	70-135	01.03.20 19.54	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-007	Date Collected:	01.02.20 13.15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.03.20 17.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.03.20 17.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.03.20 17.44	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.03.20 17.44	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-008	Date Collected:	01.02.20 13.20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.24	Basis:	Wet Weight
Seq Number:	3112367				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**328**	9.96	mg/kg	01.03.20 18.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.03.20 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.03.20 20.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.03.20 20.34	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.03.20 20.34	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.03.20 20.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.03.20 20.34	
o-Terphenyl	84-15-1	110	%	70-135	01.03.20 20.34	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-008	Date Collected:	01.02.20 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.03.20 18.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.03.20 18.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.03.20 18.02	
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.03.20 18.02	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-009	Date Collected:	01.02.20 13.25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.24	Basis:	Wet Weight
Seq Number:	3112367				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1900**	10.0	mg/kg	01.03.20 18.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.03.20 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.03.20 20.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.03.20 20.34	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.03.20 20.34	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.03.20 20.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.03.20 20.34	
o-Terphenyl	84-15-1	108	%	70-135	01.03.20 20.34	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-009	Date Collected:	01.02.20 13.25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1
m,p-Xylenes	179601-23-1	<0.00393	0.00393	mg/kg	01.03.20 18.19	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1
Xylenes, Total	1330-20-7	<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1
Total BTEX		<0.00196	0.00196	mg/kg	01.03.20 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.03.20 18.19	
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.03.20 18.19	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-010	Date Collected:	01.02.20 13.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.24	Basis:	Wet Weight
Seq Number:	3112367				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**466**	10.0	mg/kg	01.03.20 18.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.03.20 20.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.03.20 20.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.03.20 20.54	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.03.20 20.54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.03.20 20.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.03.20 20.54	
o-Terphenyl	84-15-1	112	%	70-135	01.03.20 20.54	

Certificate of Analytical Results 647862

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	01.03.20 11.40
Lab Sample Id:	647862-010	Date Collected:	01.02.20 13.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.03.20 13.30	Basis:	Wet Weight
Seq Number:	3112361				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.03.20 18.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.03.20 18.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.03.20 18.37	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.03.20 18.37	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 647862

LT Environmental, Inc.

Longview Federal 1-21

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112365 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693684-1-BLK LCS Sample Id: 7693684-1-BKS LCSD Sample Id: 7693684-1-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	230	92	247	99	90-110	7	20	mg/kg	01.03.20 14:20	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112367 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693686-1-BLK LCS Sample Id: 7693686-1-BKS LCSD Sample Id: 7693686-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	257	103	90-110	0	20	mg/kg	01.03.20 17:42	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112365 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647856-001 MS Sample Id: 647856-001 S MSD Sample Id: 647856-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4790	202	5060	134	5060	134	90-110	0	20	mg/kg	01.03.20 14:37	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112365 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647858-003 MS Sample Id: 647858-003 S MSD Sample Id: 647858-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	845	200	1060	108	1060	108	90-110	0	20	mg/kg	01.03.20 16:09	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112367 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647862-007 MS Sample Id: 647862-007 S MSD Sample Id: 647862-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	252	200	465	107	469	109	90-110	1	20	mg/kg	01.03.20 18:05	

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

QC Summary 647862

LT Environmental, Inc.

Longview Federal 1-21

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112367 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647906-007 MS Sample Id: 647906-007 S MSD Sample Id: 647906-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	76.7	200	292	108	296	110	90-110	1	20	mg/kg	01.03.20 19:38	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112379 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693693-1-BLK LCS Sample Id: 7693693-1-BKS LCSD Sample Id: 7693693-1-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	1170	117	1070	107	70-135	9	35	mg/kg	01.03.20 15:13	
Diesel Range Organics (DRO)	<50.0	1000	1290	129	1190	119	70-135	8	35	mg/kg	01.03.20 15:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		124		121		70-135	%	01.03.20 15:13
o-Terphenyl	108		119		114		70-135	%	01.03.20 15:13

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112398 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693705-1-BLK LCS Sample Id: 7693705-1-BKS LCSD Sample Id: 7693705-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1100	110	1120	112	70-135	2	35	mg/kg	01.03.20 19:34	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1220	122	70-135	1	35	mg/kg	01.03.20 19:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		125		130		70-135	%	01.03.20 19:34
o-Terphenyl	114		118		120		70-135	%	01.03.20 19:34

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112379 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693693-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.03.20 14:53	

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

QC Summary 647862

LT Environmental, Inc.

Longview Federal 1-21

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112398 Matrix: Solid Date Prep: 01.03.20
MB Sample Id: 7693705-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.03.20 19:34	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112379 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647856-001 MS Sample Id: 647856-001 S MSD Sample Id: 647856-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1160	116	70-135	4	35	mg/kg	01.03.20 15:33	
Diesel Range Organics (DRO)	<50.0	1000	1230	123	1280	128	70-135	4	35	mg/kg	01.03.20 15:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		124		70-135	%	01.03.20 15:33
o-Terphenyl	118		119		70-135	%	01.03.20 15:33

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112398 Matrix: Soil Date Prep: 01.03.20
Parent Sample Id: 647862-007 MS Sample Id: 647862-007 S MSD Sample Id: 647862-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	1160	116	1060	106	70-135	9	35	mg/kg	01.03.20 20:14	
Diesel Range Organics (DRO)	<49.9	997	1250	125	1160	116	70-135	7	35	mg/kg	01.03.20 20:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		119		70-135	%	01.03.20 20:14
o-Terphenyl	125		116		70-135	%	01.03.20 20:14

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 647862

LT Environmental, Inc.

Longview Federal 1-21

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

Seq Number: 3112361 Matrix: Solid Date Prep: 01.03.20

MB Sample Id: 7693688-1-BLK LCS Sample Id: 7693688-1-BKS LCSD Sample Id: 7693688-1-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	0.0921	92	0.0970	97	70-130	5	35	mg/kg	01.03.20 14:16	
Toluene	<0.00200	0.100	0.0928	93	0.0978	98	70-130	5	35	mg/kg	01.03.20 14:16	
Ethylbenzene	<0.00200	0.100	0.0911	91	0.0958	96	71-129	5	35	mg/kg	01.03.20 14:16	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.199	100	70-135	5	35	mg/kg	01.03.20 14:16	
o-Xylene	<0.00200	0.100	0.0926	93	0.0973	97	71-133	5	35	mg/kg	01.03.20 14:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		99		100		70-130	%	01.03.20 14:16
4-Bromofluorobenzene	100		102		102		70-130	%	01.03.20 14:16

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

Seq Number: 3112361 Matrix: Soil Date Prep: 01.03.20

Parent Sample Id: 647862-001 MS Sample Id: 647862-001 S MSD Sample Id: 647862-001 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	0.0990	0.111	112	0.112	113	70-130	1	35	mg/kg	01.03.20 14:50	
Toluene	<0.00198	0.0990	0.108	109	0.109	110	70-130	1	35	mg/kg	01.03.20 14:50	
Ethylbenzene	<0.00198	0.0990	0.101	102	0.104	105	71-129	3	35	mg/kg	01.03.20 14:50	
m,p-Xylenes	<0.000746	0.198	0.206	104	0.212	107	70-135	3	35	mg/kg	01.03.20 14:50	
o-Xylene	<0.00198	0.0990	0.101	102	0.104	105	71-133	3	35	mg/kg	01.03.20 14:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		70-130	%	01.03.20 14:50
4-Bromofluorobenzene	102		99		70-130	%	01.03.20 14:50

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

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

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

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

Chain of Custody

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: 647862

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, 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 1-21	Turn Around	
Project Number:	03A19038	Routine ☐	
Project Location	Rural Eddy County	Rush: 3 DAY	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	~~3RP-563AB~~	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	0.4	Thermometer ID	IR WM-007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	10

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	FS06A	S	1/2/19	1245	2'	1				
	SW05			1250	0-2'	1				
	SW06			1255	0-2'	1				
	SW07			1300	0-2'	1				
	FS11			1305	0.5	1				
	FS12			1310	0.5'	1				
	FS13			1315	2'	1				
	FS14			1320	2'	1				
	FS15			1325	2'	1				
	FS16			1330	2'	1				

Preservative Codes

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

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

Sample Comments

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

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Anna Byers		1/3/20 11:40	2		
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: 01/03/2020 11:40:00 AM

Work Order #: 647862

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 01/03/2020

Checklist reviewed by: Holly Taylor Date: 01/06/2020

Analytical Report 649625

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Longview Federal 1-21H

034819082

23-JAN-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

23-JAN-20

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

Reference: XENCO Report No(s): **649625**
Longview Federal 1-21H
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) 649625. 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. 649625 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 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS15A	S	01-20-20 10:50	3 ft	649625-001
FS17	S	01-20-20 11:00	6 ft	649625-002
FS18	S	01-20-20 11:02	6 ft	649625-003
FS19	S	01-20-20 11:10	0 - 0.3 ft	649625-004
SW08	S	01-20-20 11:20	0 - 6 ft	649625-005
SW09	S	01-20-20 11:22	0 - 6 ft	649625-006
SW10	S	01-20-20 11:25	0 - 6 ft	649625-007
SW11	S	01-20-20 11:27	0 - 6 ft	649625-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: Longview Federal 1-21H

Project ID: *034819082*
Work Order Number(s): *649625*

Report Date: *23-JAN-20*
Date Received: *01/20/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113865 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649625-005,649625-003.

Batch: LBA-3113992 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 649625

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 1-21H

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Mon Jan-20-20 12:46 pm
Report Date: 23-JAN-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	649625-001		649625-002		649625-003		649625-004		649625-005		649625-006	
	Field Id:	FS15A		FS17		FS18		FS19		SW08		SW09	
	Depth:	3- ft		6- ft		6- ft		0-0.3 ft		0-6 ft		0-6 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-20-20 10:50		Jan-20-20 11:00		Jan-20-20 11:02		Jan-20-20 11:10		Jan-20-20 11:20		Jan-20-20 11:22	
BTEX by EPA 8021B	***Extracted:***	Jan-20-20 13:06		Jan-20-20 13:06		Jan-20-20 13:06		Jan-20-20 13:06		Jan-20-20 13:06		Jan-20-20 13:06	
	Analyzed:	Jan-20-20 20:31		Jan-20-20 20:51		Jan-20-20 21:12		Jan-20-20 21:32		Jan-20-20 21:52		Jan-20-20 22:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00404	0.00404	<0.00397	0.00397	<0.00400	0.00400	<0.00402	0.00402	<0.00400	0.00400
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Xylenes, Total		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Jan-20-20 16:49		Jan-20-20 16:49		Jan-20-20 16:49		Jan-20-20 16:49		Jan-20-20 16:49		Jan-20-20 16:49	
	Analyzed:	Jan-20-20 20:51		Jan-20-20 20:56		Jan-20-20 21:01		Jan-20-20 21:07		Jan-20-20 21:12		Jan-20-20 21:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		405	10.1	192	9.98	201	9.90	86.7	10.0	1290	10.0	320	10.1
TPH by SW8015 Mod	***Extracted:***	Jan-20-20 17:36		Jan-20-20 17:36		Jan-20-20 17:36		Jan-20-20 17:36		Jan-20-20 17:36		Jan-20-20 17:36	
	Analyzed:	Jan-20-20 21:16		Jan-20-20 21:35		Jan-20-20 21:35		Jan-20-20 21:55		Jan-20-20 21:55		Jan-20-20 22:15	
	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	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Total GRO-DRO		<50.1	50.1	<50.1	50.1	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Total TPH		<50.1	50.1	<50.1	50.1	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 649625

LT Environmental, Inc., Arvada, CO

Project Name: Longview Federal 1-21H

Project Id: 034819082
Contact: Chris McKisson
Project Location: Rural Eddy County

Date Received in Lab: Mon Jan-20-20 12:46 pm
Report Date: 23-JAN-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	649625-007		649625-008					
	Field Id:	SW10		SW11					
	Depth:	0-6 ft		0-6 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-20-20 11:25		Jan-20-20 11:27					
BTEX by EPA 8021B	***Extracted:***	Jan-20-20 13:06		Jan-20-20 13:06					
	Analyzed:	Jan-20-20 22:33		Jan-20-20 22:54					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00202	0.00202				
Toluene		<0.00200	0.00200	<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202				
m,p-Xylenes		<0.00401	0.00401	<0.00404	0.00404				
o-Xylene		<0.00200	0.00200	<0.00202	0.00202				
Xylenes, Total		<0.00200	0.00200	<0.00202	0.00202				
Total BTEX		<0.00200	0.00200	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	Jan-20-20 16:10		Jan-20-20 16:10					
	Analyzed:	Jan-20-20 23:56		Jan-21-20 00:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		294	10.1	225	10.1				
TPH by SW8015 Mod	***Extracted:***	Jan-20-20 17:36		Jan-20-20 17:36					
	Analyzed:	Jan-20-20 22:15		Jan-20-20 22:35					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.3	50.3				
Diesel Range Organics (DRO)		<50.1	50.1	<50.3	50.3				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.3	50.3				
Total GRO-DRO		<50.1	50.1	<50.3	50.3				
Total TPH		<50.1	50.1	<50.3	50.3				

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS15A**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-001	Date Collected:	01.20.20 10.50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**405**	10.1	mg/kg	01.20.20 20.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.20.20 21.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.20.20 21.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.20.20 21.16	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.20.20 21.16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.20.20 21.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	01.20.20 21.16	
o-Terphenyl	84-15-1	109	%	70-135	01.20.20 21.16	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS15A**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-001	Date Collected:	01.20.20 10.50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.20.20 20.31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.20.20 20.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.20.20 20.31	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.20.20 20.31	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-002	Date Collected:	01.20.20 11.00	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**192**	9.98	mg/kg	01.20.20 20.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.20.20 21.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.20.20 21.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.20.20 21.35	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.20.20 21.35	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.20.20 21.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	01.20.20 21.35	
o-Terphenyl	84-15-1	124	%	70-135	01.20.20 21.35	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-002	Date Collected:	01.20.20 11.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.20.20 20.51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.20.20 20.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.20.20 20.51	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.20.20 20.51	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-003	Date Collected:	01.20.20 11.02	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**201**	9.90	mg/kg	01.20.20 21.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.20.20 21.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.20.20 21.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.20.20 21.35	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.20.20 21.35	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.20.20 21.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	01.20.20 21.35	
o-Terphenyl	84-15-1	137	%	70-135	01.20.20 21.35	**

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-003	Date Collected:	01.20.20 11.02	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	01.20.20 21.12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.20.20 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.20.20 21.12	
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.20.20 21.12	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-004	Date Collected:	01.20.20 11.10	Sample Depth:	0 - 0.3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.7**	10.0	mg/kg	01.20.20 21.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.20.20 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	01.20.20 21.55	
o-Terphenyl	84-15-1	122	%	70-135	01.20.20 21.55	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-004	Date Collected:	01.20.20 11.10	Sample Depth:	0 - 0.3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.20.20 21.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.20.20 21.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.20.20 21.32	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.20.20 21.32	

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LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-005	Date Collected:	01.20.20 11.20	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1290**	10.0	mg/kg	01.20.20 21.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.20.20 21.55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.20.20 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	01.20.20 21.55	
o-Terphenyl	84-15-1	139	%	70-135	01.20.20 21.55	**

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-005	Date Collected:	01.20.20 11.20	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.20.20 21.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.20.20 21.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.20.20 21.52	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.20.20 21.52	

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LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-006	Date Collected:	01.20.20 11.22	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.49	Basis:	Wet Weight
Seq Number:	3113985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**320**	10.1	mg/kg	01.20.20 21.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.20.20 22.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.20.20 22.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.20.20 22.15	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.20.20 22.15	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.20.20 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	01.20.20 22.15	
o-Terphenyl	84-15-1	128	%	70-135	01.20.20 22.15	

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LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-006	Date Collected:	01.20.20 11.22	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.20.20 22.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.20.20 22.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.20.20 22.13	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.20.20 22.13	

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LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-007	Date Collected:	01.20.20 11.25	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.10	Basis:	Wet Weight
Seq Number:	3113990				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**294**	10.1	mg/kg	01.20.20 23.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.20.20 22.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.20.20 22.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.20.20 22.15	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.20.20 22.15	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.20.20 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.20.20 22.15	
o-Terphenyl	84-15-1	112	%	70-135	01.20.20 22.15	

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LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-007	Date Collected:	01.20.20 11.25	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.20.20 22.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.20.20 22.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.20.20 22.33	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.20.20 22.33	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-008	Date Collected:	01.20.20 11.27	Sample Depth:	0 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 16.10	Basis:	Wet Weight
Seq Number:	3113990				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**225**	10.1	mg/kg	01.21.20 00.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.20.20 17.36	Basis:	Wet Weight
Seq Number:	3113865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.20.20 22.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.20.20 22.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.20.20 22.35	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.20.20 22.35	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.20.20 22.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.20.20 22.35	
o-Terphenyl	84-15-1	114	%	70-135	01.20.20 22.35	

Certificate of Analytical Results 649625

LT Environmental, Inc., Arvada, CO

Longview Federal 1-21H

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	01.20.20 12.46
Lab Sample Id:	649625-008	Date Collected:	01.20.20 11.27	Sample Depth:	0 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JHB			% Moisture:	
Analyst:	JHB	Date Prep:	01.20.20 13.06	Basis:	Wet Weight
Seq Number:	3113992				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.20.20 22.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.20.20 22.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.20.20 22.54	
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.20.20 22.54	

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 649625

LT Environmental, Inc.

Longview Federal 1-21H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113985 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694792-1-BLK — LCS Sample Id: 7694792-1-BKS — LCSD Sample Id: 7694792-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.39	250	252	101	252	101	90-110	0	20	mg/kg	01.20.20 18:13	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113990 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694796-1-BLK — LCS Sample Id: 7694796-1-BKS — LCSD Sample Id: 7694796-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	258	103	90-110	0	20	mg/kg	01.20.20 21:39	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113985 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649573-008 — MS Sample Id: 649573-008 S — MSD Sample Id: 649573-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	79.7	193	333	131	316	122	90-110	5	20	mg/kg	01.20.20 18:53	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113985 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649573-018 — MS Sample Id: 649573-018 S — MSD Sample Id: 649573-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	382	202	679	147	701	159	90-110	3	20	mg/kg	01.20.20 20:34	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113990 — Matrix: Soil — Date Prep: 01.20.20
Parent Sample Id: 649655-001 — MS Sample Id: 649655-001 S — MSD Sample Id: 649655-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.2	189	287	136	288	137	90-110	0	20	mg/kg	01.20.20 21:50	X

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 649625

LT Environmental, Inc.

Longview Federal 1-21H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3113990 Matrix: Soil Date Prep: 01.20.20
Parent Sample Id: 649663-010 MS Sample Id: 649663-010 S MSD Sample Id: 649663-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	285	198	553	135	495	107	90-110	11	20	mg/kg	01.20.20 23:44	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113865 Matrix: Solid Date Prep: 01.20.20
MB Sample Id: 7694760-1-BLK LCS Sample Id: 7694760-1-BKS LCSD Sample Id: 7694760-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1050	105	1100	110	70-135	5	35	mg/kg	01.20.20 18:57	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1060	106	70-135	0	35	mg/kg	01.20.20 18:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		121		118		70-135	%	01.20.20 18:57
o-Terphenyl	100		114		114		70-135	%	01.20.20 18:57

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113865 Matrix: Solid Date Prep: 01.20.20
MB Sample Id: 7694760-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 18:57	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3113865 Matrix: Soil Date Prep: 01.20.20
Parent Sample Id: 649573-008 MS Sample Id: 649573-008 S MSD Sample Id: 649573-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	1100	110	1080	108	70-135	2	35	mg/kg	01.20.20 19:37	
Diesel Range Organics (DRO)	<49.9	997	1230	123	1090	109	70-135	12	35	mg/kg	01.20.20 19:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		121		70-135	%	01.20.20 19:37
o-Terphenyl	108		114		70-135	%	01.20.20 19:37

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 649625

LT Environmental, Inc.

Longview Federal 1-21H

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

Seq Number: 3113992 Matrix: Solid Date Prep: 01.20.20

MB Sample Id: 7694831-1-BLK LCS Sample Id: 7694831-1-BKS LCSD Sample Id: 7694831-1-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	0.0978	98	0.0937	94	70-130	4	35	mg/kg	01.20.20 18:14	
Toluene	<0.00200	0.100	0.0943	94	0.0910	91	70-130	4	35	mg/kg	01.20.20 18:14	
Ethylbenzene	<0.00200	0.100	0.0915	92	0.0884	88	71-129	3	35	mg/kg	01.20.20 18:14	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.183	92	70-135	3	35	mg/kg	01.20.20 18:14	
o-Xylene	<0.00200	0.100	0.0932	93	0.0905	91	71-133	3	35	mg/kg	01.20.20 18:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		101		70-130	%	01.20.20 18:14
4-Bromofluorobenzene	97		98		95		70-130	%	01.20.20 18:14

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

Seq Number: 3113992 Matrix: Soil Date Prep: 01.20.20

Parent Sample Id: 649562-001 MS Sample Id: 649562-001 S MSD Sample Id: 649562-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0800	80	0.0954	96	70-130	18	35	mg/kg	01.20.20 18:55	
Toluene	<0.00199	0.0994	0.0777	78	0.0924	93	70-130	17	35	mg/kg	01.20.20 18:55	
Ethylbenzene	<0.00199	0.0994	0.0749	75	0.0897	90	71-129	18	35	mg/kg	01.20.20 18:55	
m,p-Xylenes	<0.000749	0.199	0.155	78	0.185	93	70-135	18	35	mg/kg	01.20.20 18:55	
o-Xylene	<0.00199	0.0994	0.0767	77	0.0921	93	71-133	18	35	mg/kg	01.20.20 18:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		70-130	%	01.20.20 18:55
4-Bromofluorobenzene	99		98		70-130	%	01.20.20 18:55

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

Chain of Custody

Work Order No: 649625

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

Project Manager:	Chris McKissen	Bill to: (if different)	→
Company Name:	Anna Byers	Company Name:	→
Address:	820 Megan Ave, Unit B	Address:	
City, State ZIP:	Rifle Co 81650	City, State ZIP:	
Phone:	970-285-9985	Email:	cmckisson@Henv.com tabyers@Henv.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 1-21 H	Turn Around	
Project Number:	034819082	Routine ☐	
Project Location	Rural Eddy County	Rush: 3DAY	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	10/31/19 (DOR)	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	0.2 / 0.0	Thermometer ID	CF 007
Received Intact:	(Yes) No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes (No) N/A	Total Containers:	8
Sample Custody Seals:	Yes (No) N/A		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	FS15A	S	1/20/20	1050	3'	1	X	X	X	
	FS17	S		1100	6'	1	X	X	X	
	FS18	S		1102	6'	1	X	X	X	
	FS19	S		1110	0-0.3'	1	X	X	X	
	SW08	S		1120	0-6'	1	X	X	X	
	SW09	S		1122	0-6'	1	X	X	X	RUSH 24 HR
	SW10	S		1125	0-6'	1	X	X	X	RUSH 24 HR
	SW11	S	↓	1127	0-6'	1	X	X	X	RUSH 24 HR

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
1	Anna Byers		1/20/20 12:46	2		
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: 01/20/2020 12:46:00 PM

Work Order #: 649625

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 01/21/2020

Checklist reviewed by: Jessica Kramer Date: 01/22/2020