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

December 18, 2019

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

RE: Closure Request
Big Eddy Unit 56
Remediation Permit Number 2RP-4126
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request report detailing site assessment, soil sampling, and excavation activities at the Big Eddy Unit 56 (Site) in Unit G, Section 35, Township 21 South, Range 28 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil after a release of produced water at the Site.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing.

RELEASE BACKGROUND

On February 18, 2017, the bourdon tube on a pressure gauge failed, causing approximately 28 bbls of produced water to release onto the surface of the well pad. All released fluids remained on the well pad. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on February 22, 2017, and was assigned Remediation Permit (RP) Number 2RP-4126 (Attachment 1).

Although the release occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Based on the site assessment activities and results of the soil sampling events, XTO is requesting no further action for this release.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 of the NMAC. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 322547105035001, located approximately 3,162 feet southeast of the Site. The water well has a depth to groundwater of 128 feet, the total depth is not specified. Ground surface elevation at the water well location is 3,162 feet above mean sea level (AMSL), which is approximately 33 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent stream located approximately 1,505 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium-potential karst area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

On December 27, 2017, LTE personnel inspected the Site to evaluate the release extent. Six preliminary soil samples (SS-1 through SS-6) were collected within and around the release area to assess the lateral extent of impacted soil. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and field observations. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location from a depth of 0.3 feet or 0.5 feet bgs. During May 2018, LTE personnel returned to the site to collect additional soil samples. Soil samples SS-3A through SS-6A and SS-6B were collected from depths ranging from 1 foot to 2.5 feet bgs at the SS-3 through SS-6 preliminary soil sample locations. Soil samples SS-7 through SS-10 were collected from depths ranging from 1 foot to 1.75 feet bgs within and around the release area to further assess for potential soil impacts.

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 ESC Lab Sciences in Mount Juliet, Tennessee, or Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. The soil sample locations are depicted on Figure 2.

During March and November 2019, LTE personnel returned to the Site to oversee site assessment and excavation activities.

Impacted soil was excavated from the release area as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated to a depth ranging from 1 foot to 4 feet bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floors of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW05 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 4 feet bgs. Composite soil samples FS01 through FS11 were collected from the floor of the excavation from depths ranging from 1 foot to 4 feet bgs. Due to the shallow 1 foot depth in the north half of the excavation, floor samples FS01 through FS03 were also representative of the sidewalls in this area. The excavation extent and excavation soil sample locations are depicted on Figure 3.

Potholes were advanced via track hoe at 7 locations on the well pad to confirm the lateral and vertical extent impacted soil. Potholes PH01 through PH07 were advanced to depths ranging from 6 feet to 19 feet bgs. Delineation soil samples were collected from each pothole from depths ranging from 2 feet to 19 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. The delineation soil sample locations are depicted on Figure 4.

The delineation and excavation soil samples were collected, handled, and analyzed as described above and submitted to Xenco. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The excavation measured approximately 2,500 square feet in area and was completed to depths ranging from 1 foot bgs to 4 feet bgs. A total of approximately 250 cubic yards of impacted soil

were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS-1, SS-2, SS-3A, SS-4/SS-4A through SS-6/SS-6A, SS-6B, and SS-7 through SS-10. Laboratory analytical results indicated that GRO/DRO and TPH concentrations exceeded the Closure Criteria in preliminary soil sample SS-3, collected at 0.5 feet bgs. Based on field screening results and laboratory analytical results for the preliminary soil samples, excavation and delineation of impacted soil was conducted.

Laboratory analytical results for excavation soil samples SW01 through SW05 and FS01 through FS11 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for the delineation soil samples, collected from potholes PH01 through PH07, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Impacted soil was excavated from the Site to address the February 18, 2017, release of produced water at the Site. Laboratory analytical results for the excavation soil samples collected from the final excavation extent indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Delineation soil sampling was completed in and around the release extent to confirm the absence of additional impacted soil. Laboratory analytical results for the delineation soil samples indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the excavation and delineation soil sample analytical results, no further remediation was required.

Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Number 2RP-4126. XTO 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 in Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Aimee Cole
Project Environmental Scientist

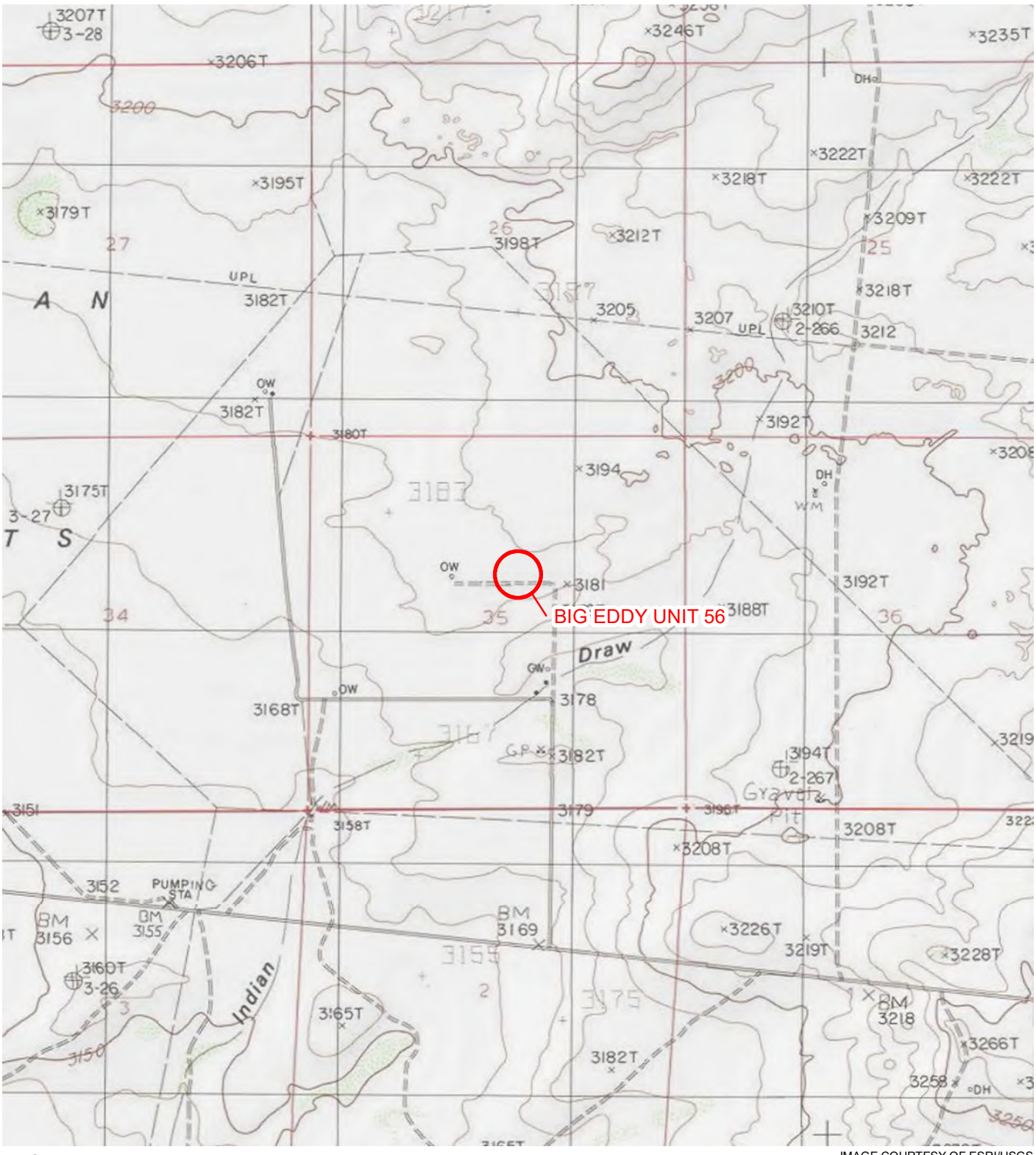
Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-4126)
Attachment 2	Lithologic / Soil Sample Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

NOTE: REMEDIATION PERMIT NUMBER 2RP-4126

FIGURE 1
SITE LOCATION MAP
BIG EDDY UNIT 56
UNIT G SEC 35 T21S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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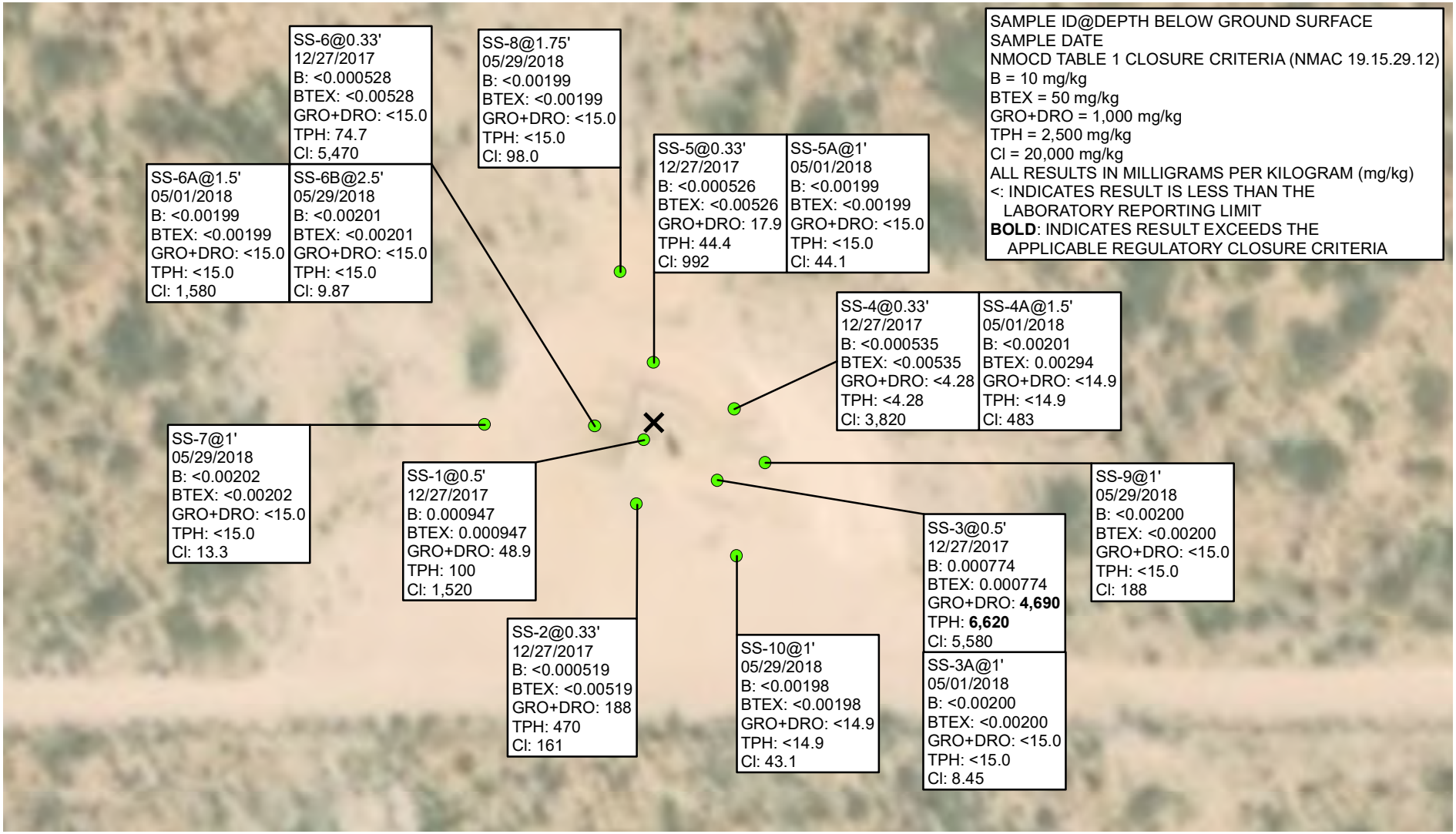

LEGEND

IMAGE COURTESY OF ESRI

✕ RELEASE LOCATION

● PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

0 50 100

Feet

N

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-4126

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
BIG EDDY UNIT 56
UNIT G SEC 35 T21S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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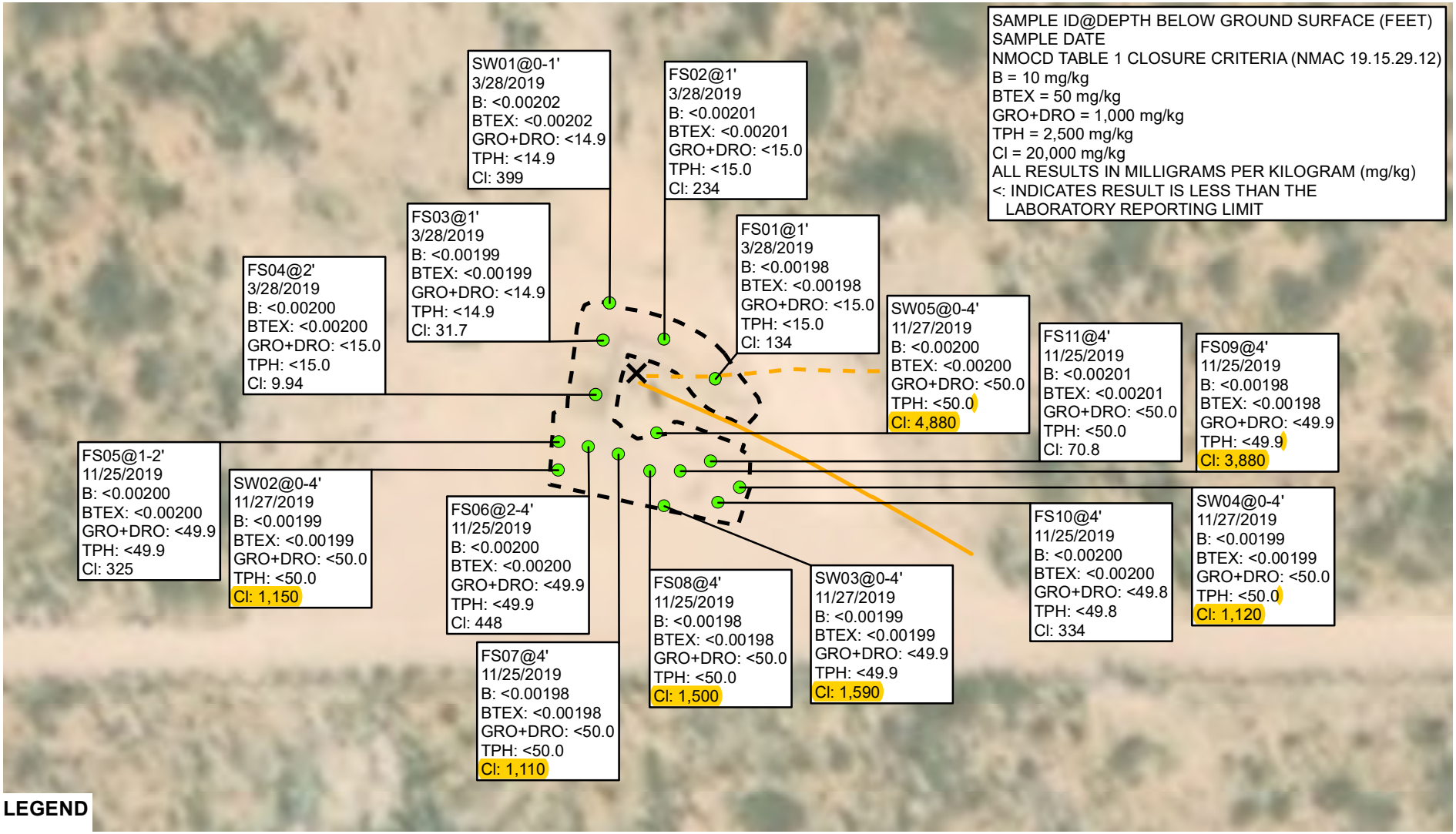

LEGEND

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOW LINE
- ABANDONED FLOWLINE
- EXCAVATION EXTENT

IMAGE COURTESY OF ESRI

0 50 100 Feet

N

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-4126

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
BIG EDDY UNIT 56
UNIT G SEC 35 T21S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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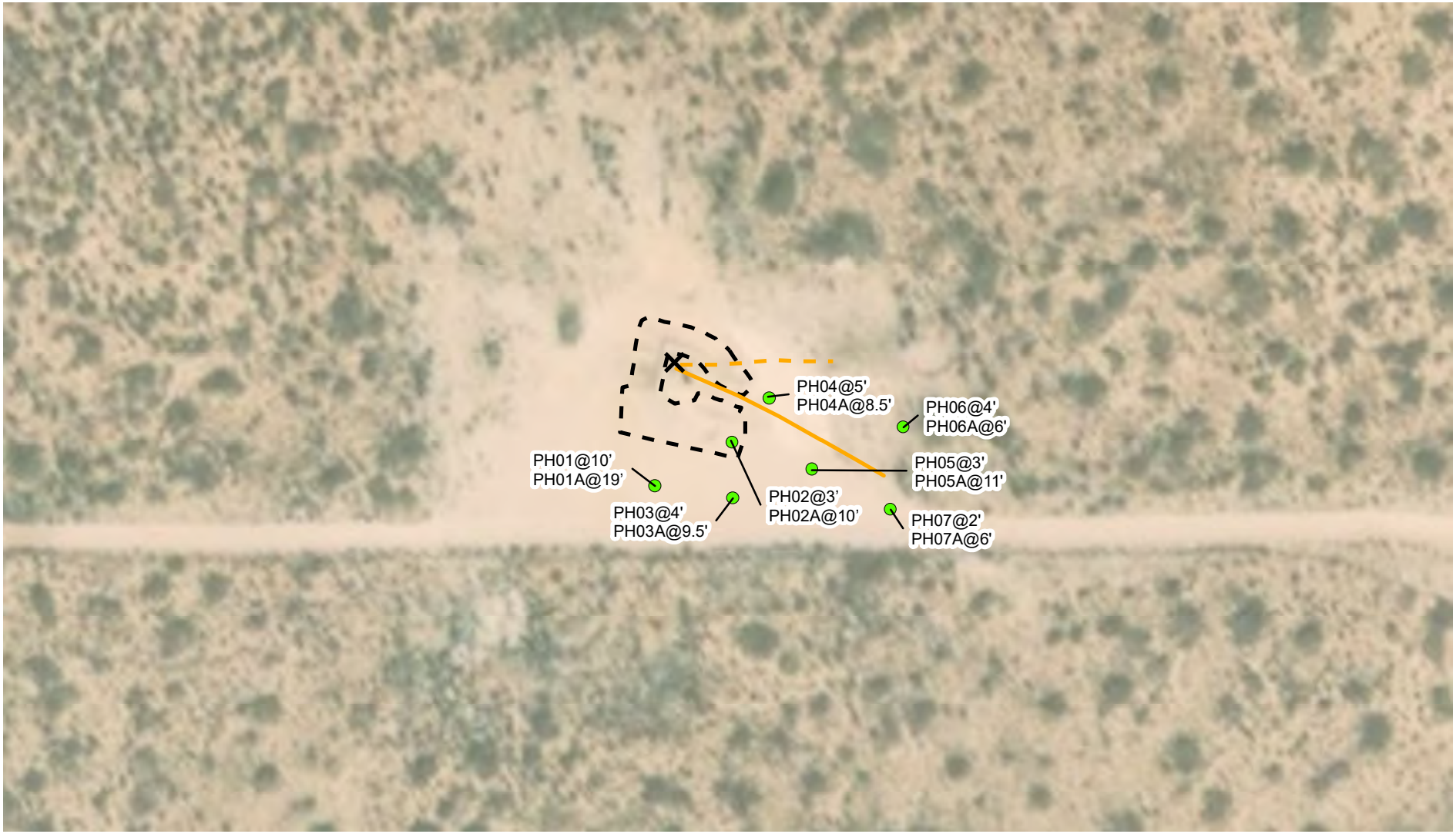

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOW LINE
- ABANDONED FLOWLINE
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4126

IMAGE COURTESY OF ESRI

0 80 160
Feet

N

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
BIG EDDY UNIT 56
UNIT G SEC 35 T21S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

BIG EDDY UNIT 56
REMEDIATION PERMIT NUMBER 2RP-4126
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS-1	0.5	12/27/2017	0.000947	<0.00513	<0.000513	<0.00154	0.000947	<0.103	48.9	51.1	48.9	100	1,520
SS-2	0.33	12/27/2017	<0.000519	<0.00519	<0.000519	<0.00156	<0.00519	<0.104	188	282	188	470	161
SS-3	0.5	12/27/2017	0.000774	<0.00521	<0.000521	<0.00156	0.000774	<0.104	4,690	1,930	**4,690**	**6,620**	5,580
SS-3A	1	05/01/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	8.45
SS-4	0.33	12/27/2017	<0.000535	<0.00535	<0.000535	<0.00161	<0.00535	<0.107	<4.28	<4.28	<4.28	<4.28	3,820
SS-4A	1.5	05/01/2018	<0.00201	0.00294	<0.00201	<0.00201	0.00294	<14.9	<14.9	<14.9	<14.9	<14.9	483
SS-5	0.33	12/27/2017	<0.000526	<0.00526	<0.000526	<0.00158	<0.00526	<0.105	17.9	26.5	17.9	44.4	992
SS-5A	1	05/01/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	44.1
SS-6	0.33	12/27/2017	<0.000528	<0.00528	<0.000528	<0.00158	<0.00528	<0.106	40.0	34.7	40.0	74.7	5,470
SS-6A	1.5	05/01/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,580
SS-6B	2.5	05/29/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	9.87
SS-7	1	05/29/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	13.3
SS-8	1.75	05/29/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	98.0
SS-9	1	05/29/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	188
SS-10	1	05/29/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	43.1
SW01	0 - 1	03/28/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	399
SW02	0 - 4	11/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,150
SW03	0 - 4	11/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,590
SW04	0 - 4	11/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,120
SW05	0 - 4	11/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,880
FS01	1	03/28/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	134
FS02	1	03/28/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	234
FS03	1	03/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	31.7
FS04	2	03/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9.94
FS05	1-2	11/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	325
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

TABLE 1
SOIL ANALYTICAL RESULTS

BIG EDDY UNIT 56
REMEDIATION PERMIT NUMBER 2RP-4126
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS06	2-4	11/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	448
FS07	4	11/25/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,110
FS08	4	11/25/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,500
FS09	4	11/25/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	3,880
FS10	4	11/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	334
FS11	4	11/25/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	70.8
PH01	10	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	4,150
PH01A	19	03/25/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	609
PH02	3	03/25/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	468
PH02A	10	03/25/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	1,780
PH03	4	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	670
PH03A	9.5	03/25/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,760
PH04	5	03/27/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	2,400
PH04A	8.5	03/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,880
PH05	3	03/27/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	380
PH05A	11	03/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	156
PH06	4	03/29/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	479
PH06A	6	03/29/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	341
PH07	2	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	268
PH07A	6	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	368
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4126)

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 22 2017
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1706528281 2HD737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Jacob Foust
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-266-2663
Facility Name: Big Eddy Unit 56	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 3001522222

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	35	T21S	R28E	1944	North	2355	East	Eddy

Latitude 32.438553 **Longitude**-104.056236

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 28 Bbl	Volume Recovered 0
Source of Release Pressure gauge bourdon tube failure	Date and Hour of Occurrence 2/18/17, A.M.	Date and Hour of Discovery 2/18/2017, 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver	
By Whom? Jacob Foust	Date and Hour 2/18/2017 6:45 P.M.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Bourdon tube on a pressure gauge failed and released approximately 28 bbl produced water onto location. The gauge was replaced.

Describe Area Affected and Cleanup Action Taken.*
The spill split into three streams along the pad. Two going east and one going south. No fluid entered the pasture. Vacuum truck was called to location but was unable to recover any fluids.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Jacob Foust	Approved by Environmental Specialist: Signed By
Title: EHS Environmental Supervisor	Approval Date: 2/24/17 Expiration Date: N/A
E-mail Address: bjfoust@basspet.com	Conditions of Approval: See attached ☐ Attached
Date: Phone: 432-266-2663	

* Attach Additional Sheets If Necessary

2RP-4126

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	
District RP	
Facility ID	2RP-4126
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4126
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.438553 Longitude W -104.056236
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Big Eddy Unit 56	Site Type: Production Well Facility
Date Release Discovered: 12/4/2014	API# *(if applicable):* 30-015-22222

Unit Letter	Section	Township	Range	County
G	35	21S	28E	Eddy

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 28	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
A bourdon tube on a pressure gauge failed and released approximately 28 bbls of produced water onto the location.

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State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	2RP-4126
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? Greater than 25 bbls was released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Immediate notice was given by Jacob Foust to Mike Bratcher and Crystal Weaver on February 18, 2017 at 6:45 PM.	

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12-18-2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	2RP-4126
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	2RP-4126
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12-18-2019

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

OCD Only

Received by: Date:

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State of New Mexico
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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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12-18-2019

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

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: Brittany Hall Date: 2/21/2023

Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

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

Identifier: PH01	Date: 03/22/19
Project Name: BEV 056	RP Number:
Logged By: Robert M.	Method: Pit hole
Lat/Long:	Field Screening:
Hole Diameter: 2ft	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			
					3			
					4	4		
dry	2572	3.3	y		5	5ft	S	Caliche PG White/Pink
dry	2572	3.2	y		6	6'	S	Caliche PG White/Pink
dry	2572	2.4	y		7	7'	S	Caliche trace sand MG Pink/Brown
dry	1524	1.8	y		8	8'	S	Caliche trace sand PG Pink/Brown
dry	852	1.1	y		9	10'	S	sandy Caliche MG Pink/Brown
					10			
dry	752	1.0	N		11	12'		sandy caliche MG Pink/Brown
					12			

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

Identifier: PH02	Date: 03/25/19
Project Name: BEU 056	RP Number:
Logged By: Robert M.	Method: Pothole
Hole Diameter: 24"	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: Field Screening:

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0900	dry	200	2.2	N		0–1	1'	S	silty sand Brown PG
0905	dry	580	2.1	N		2	2'	S	silty sand Brown PG
0910	dry	1472	2.4	N		3	3'	S	Caliche trace sand MG Pink/White
0915	dry	2206	0.5	N		4	4'	S	Caliche Pink/White poor grade
0920	dry	1816	1.5	N		5–6	6'	S	red Clay trace Sand poor grade
0940	dry	1316	1.6	N		7–8	8'	S	red Clayey Sand poor grade
0950	dry	200	1.3	N		9–10	10'	S	Sand trace caliche poor grade Brown
						11–12			

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

Identifier: PH03	Date: 03/25/19
Project Name: BEU 056	RP Number:
Logged By: Robert M.	Method: Pot hole
Hole Diameter: 24	Total Depth:
Lat/Long:	Field Screening:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1205 dry	380	1.9	N		0 1	1'	S	Silty Sand Brown PG
1210 dry	580	1.8	N		2	2'	S	Silty Sand Brown PG
1215 dry	1472	1.5	N		3	3'	S	Sand Caliche Brown tan
1220 dry	2424	2.3	Y		4	4'	S	Caliche Pink/white PG
1235 dry	1472	1.6	N		5 6 7	7'	S	Sandy Caliche PG Brown/white
1250 dry	340	3.4	N		8 9	9.5'	S	Sand trace Clay PG
					10 11 12			

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

Identifier: PH04	Date: 03/25/19
Project Name: BEU D56	RP Number:
Logged By: Robert M.	Method: Pot hole
Lat/Long:	Field Screening:
Hole Diameter: 2ft	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1310	dry	1000	1.5			0–1	1'	S	Silty Sand Brown PG
1305	dry	2208	1.3			2	2'	S	Caliche trace sand light Brown/white PG
1310	dry	6,000	1.7			3	3'	S	Caliche trace sand light Brown/white PG
1315	dry	7,000	1.5			4	4'	S	Caliche trace sand light Brown/White PG
1330	dry	4752	2.7			5–6	6'	S	Sandy Clay Red PG
1340	dry	2208	1.8			7–8	8.5'	S	Clayey Sand PG Brown/tan
1350	dry	2896 ~~2208~~ RML	3.7			9–10	10'	S	Clayey Sand PG Brown/tan
1420	dry	2280	1.5			11	12'	S	Sand trace clay PG Brown tan
1440	dry	2652	2.8			12	15'	S	Sand trace caliche PG Pink/white
1500	dry	2288	1.9				19'	S	Sandy caliche MG

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

Identifier: PH05	Date: 03/25/19
Project Name: BEU 056	RP Number:
Logged By: Robert M	Method: Pothole
Hole Diameter: 24	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1650 dry	580	1.8	N		0-1	1'	S	Silty Sand PG Brown
1650 dry	1472	1.7	N		2	2'	S	Silty Sand PG Brown
1655 dry	1816	3.9	Y		3	3'	S	Caliche Pink/White PG
1600 dry	2896	1.6	Y		4	4'	S	Caliche Pink/White PG
03/26/19 0840 dry	1640	1.0	Y		5	5'	S	Caliche Pink/White PG
0930 dry	1640	1.0	Y		6-7	7'	S	Caliche Pink/White PG
0940 dry	1172	1.0	N		8-9	9'	S	Clayey Sand Brown PG
1000 dry	680	1.0	N		10	10'	S	Caliche trace clay PG
1020 dry	800	1.0	N		11	11.5'	S	Sand Caliche white PG
1047 dry	984	0.5	N		12	13'	S	Sand Caliche white PG

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

Identifier: PH06	Date: 03/26/19
Project Name: BEU 056	RP Number:
Logged By:	Method:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: Field Screening:

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0921	dry	324	0.4	N		0 1	1'	S	silty sand Brown PG
0922	dry	580	0.4	N		2	2'	S	Silty Sand Brown trace root
0923	dry	1816	0.6	Y		3	3'	S	Caliche Pink/white
0924	dry	1816	1.4	Y		4	4'	S	Caliche Pink/white
1300	dry	1000	1.6	Y		5	5'	S	Sand trace caliche PG Brown - tan
1310	dry	1000	3.0	N		6 7	7'	S	Sand trace caliche PG Brown tan
1320	dry	580	2.6	N		8	8.5'	S	Sand trace caliche PG Brown tan
1340	dry	424	1.5	N		9 10	10'	S	Sand trace caliche PG Brown tan
						11 12			

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

Identifier: PH07	Date: 03/26/19
Project Name: BEU 056	RP Number:
Logged By: Robert M	Method: Pot hole
Lat/Long:	Field Screening:
Hole Diameter: 2pt	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
	dry	580	3.7	N		0–1		S	Silty sand Brown PG
1036	dry	1472	3.8	N		2	2'	S	Silty sand Brown PG
1039	dry	2032	4.4	N		3	3'	S	Caliche trace sand PG tan
1040	dry	1828	6.6	Y		4	4'	S	Caliche trace sand Pink/White PG
1045	dry	3000	2.1	Y		5	5'	S	Caliche trace sand Pink/White PG
1400	dry	1828	2.8	Y		6–7	7'	S	Sand trace caliche Brown PG
1410	dry	1448	2.5	Y		8–9	9'	S	Sand trace caliche Brown PG
1415 ~~1430~~	dry	1828	0.6	N		10–11	11'	S	Sand trace caliche Brown/tan PG
						12			

ATTACHMENT 3: PHOTOGRAPHIC LOG

View of the northern excavation area.

Project: 012917059	XTO Energy, Inc. Big Eddy Unit 56	LTE Advancing Opportunity
March 25, 2019	Photographic Log	

View of the southern excavation area.

Project: 012917059	XTO Energy, Inc. Big Eddy Unit 56	LTE Advancing Opportunity
June 25, 2019	Photographic Log	

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

January 12, 2018

XTO Energy- Delaware Division

Sample Delivery Group:	L960372
Samples Received:	12/29/2017
Project Number:	30-015-22222
Description:	Confirmation Soil Samples
Site:	BIG EDDY UNIT 56
Report To:	Kyle Littrell 6401 N Holiday Hill Rd Suite 200 Midland, TX 79707

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

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

TABLE OF CONTENTS

SS-1 L960372-01 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:43 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	5	12/30/17 11:58	12/30/17 15:17	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 17:34	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	2	01/03/18 06:39	01/03/18 18:50	MTJ

SS-2 L960372-02 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:47 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	1	12/30/17 11:58	12/30/17 15:26	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 17:57	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	10	01/03/18 06:39	01/10/18 17:17	MTJ

SS-3 L960372-03 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:50 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	10	12/30/17 11:58	12/30/17 15:34	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 18:20	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	50	01/03/18 06:39	01/10/18 18:24	MTJ

SS-4 L960372-04 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:53 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	10	12/30/17 11:58	12/30/17 16:08	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 18:43	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	1	01/03/18 06:39	01/03/18 17:04	MTJ

SS-5 L960372-05 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:56 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	5	12/30/17 11:58	12/30/17 16:17	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 19:06	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	2	01/03/18 06:39	01/03/18 18:35	MTJ

SS-6 L960372-06 Solid

Collected by: Aaron Williamson | Collected date/time: 12/27/17 12:59 | Received date/time: 12/29/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1059211	1	01/03/18 13:22	01/03/18 13:33	JD
Wet Chemistry by Method 300.0	WG1058590	10	12/30/17 11:58	12/30/17 16:25	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1058883	1	12/30/17 09:05	01/02/18 19:29	RAS
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1059044	2	01/03/18 06:39	01/03/18 17:50	MTJ

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

Daphne R Richards

Daphne Richards
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.5		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	1520		51.3	5	12/30/2017 15:17	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.000947		0.000513	1	01/02/2018 17:34	WG1058883
Toluene	ND		0.00513	1	01/02/2018 17:34	WG1058883
Ethylbenzene	ND		0.000513	1	01/02/2018 17:34	WG1058883
Total Xylene	ND		0.00154	1	01/02/2018 17:34	WG1058883
TPH (GC/FID) Low Fraction	ND		0.103	1	01/02/2018 17:34	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*96.9*		*77.0-120*		*01/02/2018 17:34*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*96.9*		*75.0-128*		*01/02/2018 17:34*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	48.9		8.20	2	01/03/2018 18:50	WG1059044
C28-C40 Oil Range	51.1		8.20	2	01/03/2018 18:50	WG1059044
(S) o-Terphenyl	*74.8*		*18.0-148*		*01/03/2018 18:50*	WG1059044

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.3		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	161		10.4	1	12/30/2017 15:26	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000519	1	01/02/2018 17:57	WG1058883
Toluene	ND		0.00519	1	01/02/2018 17:57	WG1058883
Ethylbenzene	ND		0.000519	1	01/02/2018 17:57	WG1058883
Total Xylene	ND		0.00156	1	01/02/2018 17:57	WG1058883
TPH (GC/FID) Low Fraction	ND		0.104	1	01/02/2018 17:57	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*94.1*		*77.0-120*		*01/02/2018 17:57*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*93.2*		*75.0-128*		*01/02/2018 17:57*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	188		41.5	10	01/10/2018 17:17	WG1059044
C28-C40 Oil Range	282		41.5	10	01/10/2018 17:17	WG1059044
(S) o-Terphenyl	*74.1*		*18.0-148*		*01/10/2018 17:17*	WG1059044

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	5580		104	10	12/30/2017 15:34	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.000774		0.000521	1	01/02/2018 18:20	WG1058883
Toluene	ND		0.00521	1	01/02/2018 18:20	WG1058883
Ethylbenzene	ND		0.000521	1	01/02/2018 18:20	WG1058883
Total Xylene	ND		0.00156	1	01/02/2018 18:20	WG1058883
TPH (GC/FID) Low Fraction	ND		0.104	1	01/02/2018 18:20	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*81.9*		*77.0-120*		*01/02/2018 18:20*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*81.9*		*75.0-128*		*01/02/2018 18:20*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	4690		208	50	01/10/2018 18:24	WG1059044
C28-C40 Oil Range	1930		208	50	01/10/2018 18:24	WG1059044
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*01/10/2018 18:24*	WG1059044

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.4		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	3820		107	10	12/30/2017 16:08	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000535	1	01/02/2018 18:43	WG1058883
Toluene	ND		0.00535	1	01/02/2018 18:43	WG1058883
Ethylbenzene	ND		0.000535	1	01/02/2018 18:43	WG1058883
Total Xylene	ND		0.00161	1	01/02/2018 18:43	WG1058883
TPH (GC/FID) Low Fraction	ND		0.107	1	01/02/2018 18:43	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*99.5*		*77.0-120*		*01/02/2018 18:43*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*98.7*		*75.0-128*		*01/02/2018 18:43*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.28	1	01/03/2018 17:04	WG1059044
C28-C40 Oil Range	ND		4.28	1	01/03/2018 17:04	WG1059044
(S) o-Terphenyl	*58.6*		*18.0-148*		*01/03/2018 17:04*	WG1059044

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	992		52.6	5	12/30/2017 16:17	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000526	1	01/02/2018 19:06	WG1058883
Toluene	ND		0.00526	1	01/02/2018 19:06	WG1058883
Ethylbenzene	ND		0.000526	1	01/02/2018 19:06	WG1058883
Total Xylene	ND		0.00158	1	01/02/2018 19:06	WG1058883
TPH (GC/FID) Low Fraction	ND		0.105	1	01/02/2018 19:06	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*97.9*		*77.0-120*		*01/02/2018 19:06*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*97.5*		*75.0-128*		*01/02/2018 19:06*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	17.9		8.42	2	01/03/2018 18:35	WG1059044
C28-C40 Oil Range	26.5		8.42	2	01/03/2018 18:35	WG1059044
(S) o-Terphenyl	*75.4*		*18.0-148*		*01/03/2018 18:35*	WG1059044

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.6		1	01/03/2018 13:33	WG1059211

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	5470		106	10	12/30/2017 16:25	WG1058590

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000528	1	01/02/2018 19:29	WG1058883
Toluene	ND		0.00528	1	01/02/2018 19:29	WG1058883
Ethylbenzene	ND		0.000528	1	01/02/2018 19:29	WG1058883
Total Xylene	ND		0.00158	1	01/02/2018 19:29	WG1058883
TPH (GC/FID) Low Fraction	ND		0.106	1	01/02/2018 19:29	WG1058883
(S) a,a,a-Trifluorotoluene(FID)	*98.2*		*77.0-120*		*01/02/2018 19:29*	WG1058883
(S) a,a,a-Trifluorotoluene(PID)	*97.5*		*75.0-128*		*01/02/2018 19:29*	WG1058883

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	40.0		8.45	2	01/03/2018 17:50	WG1059044
C28-C40 Oil Range	34.7		8.45	2	01/03/2018 17:50	WG1059044
(S) o-Terphenyl	*64.4*		*18.0-148*		*01/03/2018 17:50*	WG1059044

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3277430-1 01/03/18 13:33

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.001			

L960367-08 Original Sample (OS) • Duplicate (DUP)

(OS) L960367-08 01/03/18 13:33 • (DUP) R3277430-3 01/03/18 13:33

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.9	93.9	1	1		5

Laboratory Control Sample (LCS)

(LCS) R3277430-2 01/03/18 13:33

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

Method Blank (MB)

(MB) R3277056-1 12/30/17 12:35

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

L960365-05 Original Sample (OS) • Duplicate (DUP)

(OS) L960365-05 12/30/17 13:18 • (DUP) R3277056-4 12/30/17 13:26

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4450	4810	10	7.67		20

L960372-03 Original Sample (OS) • Duplicate (DUP)

(OS) L960372-03 12/30/17 15:34 • (DUP) R3277056-7 12/30/17 15:43

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5580	6230	10	10.9		20

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

(LCS) R3277056-2 12/30/17 12:44 • (LCSD) R3277056-3 12/30/17 12:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	211	211	105	106	90-110			0.327	20

L960367-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L960367-06 12/30/17 14:34 • (MS) R3277056-5 12/30/17 14:43 • (MSD) R3277056-6 12/30/17 14:52

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	536	80.2	634	611	103	98.9	1	80-120			3.77	20

Method Blank (MB)

(MB) R3277472-5 01/02/18 11:46

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

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

(LCS) R3277472-1 01/02/18 09:49 • (LCSD) R3277472-2 01/02/18 10:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0520	0.0518	104	104	71.0-121			0.354	20
Toluene	0.0500	0.0531	0.0525	106	105	72.0-120			1.28	20
Ethylbenzene	0.0500	0.0557	0.0549	111	110	76.0-121			1.46	20
Total Xylene	0.150	0.161	0.158	107	106	75.0-124			1.75	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*101*	*101*	*75.0-128*				

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

(LCS) R3277472-3 01/02/18 10:36 • (LCSD) R3277472-4 01/02/18 10:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.18	5.13	94.2	93.3	70.0-136			0.961	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*110*	*110*	*75.0-128*				

L960367-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L960367-08 01/02/18 17:10 • (MS) R3277472-6 01/02/18 19:52 • (MSD) R3277472-7 01/02/18 20:16

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0527	0.000969	0.0219	0.0249	39.8	45.4	1	10.0-146			12.7	29
Toluene	0.0527	ND	0.0178	0.0197	31.8	35.3	1	10.0-143			9.97	30
Ethylbenzene	0.0527	ND	0.0133	0.0143	24.7	26.6	1	10.0-147			7.34	31
Total Xylene	0.158	ND	0.0368	0.0392	22.9	24.4	1	10.0-149	J6	J6	6.38	30
(S) a,a,a-Trifluorotoluene(FID)					*95.1*	*95.2*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*95.7*	*96.5*		*75.0-128*				

L960367-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L960367-08 01/02/18 17:10 • (MS) R3277472-8 01/02/18 20:39 • (MSD) R3277472-9 01/02/18 21:02

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.80	ND	2.27	3.27	37.7	55.0	1	10.0-147		J3	36.1	30
(S) a,a,a-Trifluorotoluene(FID)					*94.1*	*93.0*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*98.9*	*100*		*75.0-128*				

Method Blank (MB)

(MB) R3277335-1 01/03/18 16:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*62.9*			*18.0-148*

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

(LCS) R3277335-2 01/03/18 16:33 • (LCSD) R3277335-3 01/03/18 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	39.6	38.5	65.9	64.2	50.0-150			2.62	20
(S) o-Terphenyl				*77.7*	*77.6*	*18.0-148*				

L960372-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L960372-02 01/10/18 17:17 • (MS) R3278594-1 01/10/18 17:30 • (MSD) R3278594-2 01/10/18 17:44

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	62.3	188	259	235	115	75.9	10	50.0-150			9.80	20
(S) o-Terphenyl					*67.9*	*63.8*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ACCREDITATIONS & LOCATIONS

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

State Accreditations

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

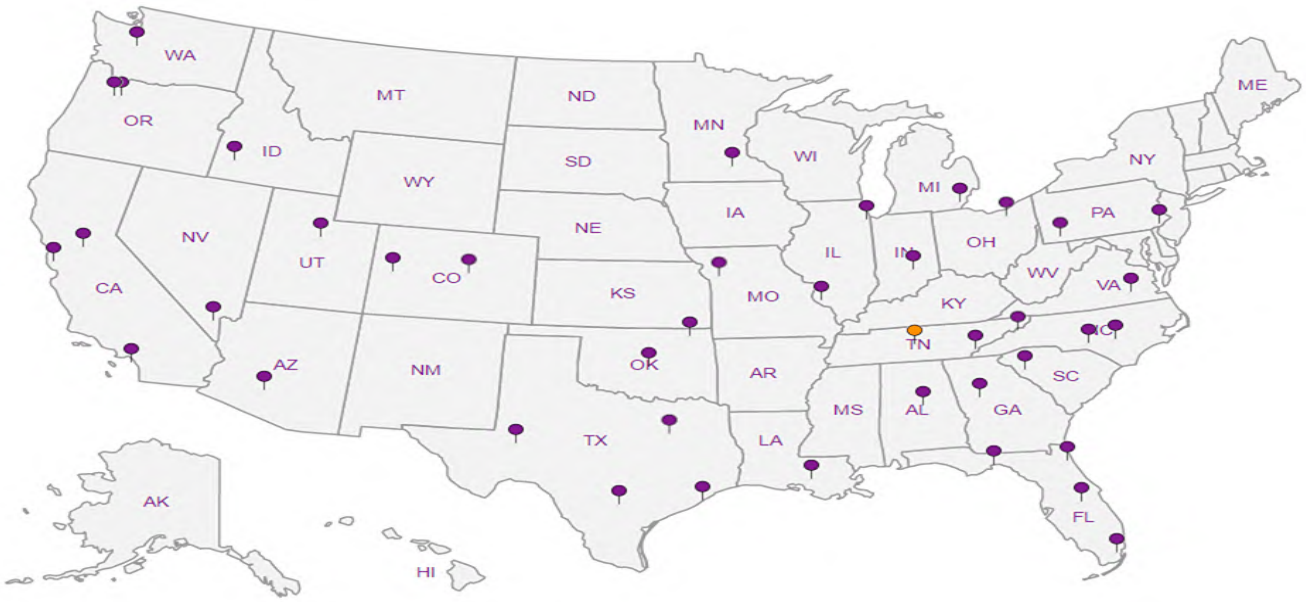
Third Party & Federal Accreditations

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

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

Our Locations

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



LTE

Billing Information: XTO

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORIES

YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Kyle Littrell

Email To: Kyle_Littrell@XTOenergy.com, Abaker@kTeav.com

Project Description: Confirmation Soil Samples

City/State Collected: NM

Phone: Fax: 1-970-317-1867

Client Project # 30-015-22222

Lab Project #

L# 960372

D134

Collected by (print): Aaron Williamson

Site/Facility ID # Big Eddy Unit 56 (2RP-4106)

P.O. # 012917059

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Acctnum: XTORNM

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300	Remarks	Sample # (lab only)
SS-1	Grab	SS	6"	12/27/17	12:43	1	✓	✓	✓		-01
SS-2	Grab	SS	4"	12/27/17	12:47	1	✓	✓	✓		-02
SS-3	Grab	SS	6"	12/27/17	12:50	1	✓	✓	✓		-03
SS-4	Grab	SS	4"	12/27/17	12:53	1	✓	✓	✓		-04
SS-5	Grab	SS	4"	12/27/17	12:56	1	✓	✓	✓		-05
SS-6	Grab	SS	4"	12/27/17	12:59	1	✓	✓	✓		-06
N.E. ARW											

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

Remarks:

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking # 7384 4291 4809

Sample Receipt Checklist

COC Seal Present/Intact:	Y	N
COC Signed/Accurate:	Y	N
Bottles arrive intact:	Y	N
Correct bottles used:	Y	N
Sufficient volume sent:	Y	N
If Applicable		
VOA Zero Headspace:	Y	N
Preservation Correct/Checked:	Y	N

	Date:	Time:		
Relinquished by: (Signature)	12/28/17	02:10	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6.7 °C Bottles Received: 6 — If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) 861	Date: 12/29/17 Time: 0845 — Hold: — Condition: NCF / OK

Analytical Report 584938

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU 56

2RP-4126

11-MAY-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

11-MAY-18

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

Reference: XENCO Report No(s): **584938**
BEU 56
Project Address: New Mexico

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 584938. 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. 584938 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 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-3A	S	05-01-18 11:39	1 ft	584938-001
SS-5A	S	05-01-18 11:50	1 ft	584938-002
SS-6A	S	05-01-18 14:53	1.5 ft	584938-003
SS-4A	S	05-01-18 15:10	1.5 ft	584938-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 56

Project ID: *2RP-4126*
Work Order Number(s): *584938*

Report Date: *11-MAY-18*
Date Received: *05/04/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3049669 BTEX by EPA 8021B

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

Certificate of Analysis Summary 584938

LT Environmental, Inc., Arvada, CO

Project Name: BEU 56

Project Id: 2RP-4126
Contact: Adrian Baker
Project Location: New Mexico

Date Received in Lab: Fri May-04-18 10:10 am
Report Date: 11-MAY-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	584938-001		584938-002		584938-003		584938-004					
	Field Id:	SS-3A		SS-5A		SS-6A		SS-4A					
	Depth:	1- ft		1- ft		1.5- ft		1.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	May-01-18 11:39		May-01-18 11:50		May-01-18 14:53		May-01-18 15:10					
BTEX by EPA 8021B	***Extracted:***	May-09-18 08:00		May-09-18 08:00		May-09-18 08:00		May-09-18 08:00					
	Analyzed:	May-09-18 20:22		May-09-18 20:43		May-09-18 21:05		May-09-18 21:26					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	0.00294	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201				
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00398	0.00398	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	0.00294	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	May-10-18 16:00		May-10-18 16:00		May-10-18 16:00		May-10-18 16:00					
	Analyzed:	May-10-18 21:50		May-10-18 21:56		May-10-18 22:02		May-10-18 22:08					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		8.45	4.95	44.1	4.99	1580	24.8	483	5.00				
TPH by SW8015 Mod	***Extracted:***	May-04-18 16:00		May-04-18 16:00		May-04-18 16:00		May-04-18 16:00					
	Analyzed:	May-05-18 02:04		May-05-18 02:30		May-05-18 02:56		May-05-18 03:25					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-3A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-001	Date Collected:	05.01.18 11.39	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.10.18 16.00	Basis:	Wet Weight
Seq Number:	3049739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.45**	4.95	mg/kg	05.10.18 21.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.18 16.00	Basis:	Wet Weight
Seq Number:	3049198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.05.18 02.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.05.18 02.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.05.18 02.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.05.18 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.05.18 02.04	
o-Terphenyl	84-15-1	102	%	70-135	05.05.18 02.04	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-3A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-001	Date Collected:	05.01.18 11.39	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.18 08.00	Basis:	Wet Weight
Seq Number:	3049669				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.09.18 20.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.18 20.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.09.18 20.22	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.09.18 20.22	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-5A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-002	Date Collected:	05.01.18 11.50	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.10.18 16.00	Basis:	Wet Weight
Seq Number:	3049739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.1**	4.99	mg/kg	05.10.18 21.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.18 16.00	Basis:	Wet Weight
Seq Number:	3049198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.05.18 02.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.05.18 02.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.05.18 02.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.05.18 02.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.05.18 02.30	
o-Terphenyl	84-15-1	107	%	70-135	05.05.18 02.30	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-5A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-002	Date Collected:	05.01.18 11.50	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.18 08.00	Basis:	Wet Weight
Seq Number:	3049669				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.18 20.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.18 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.09.18 20.43	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.09.18 20.43	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-6A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-003	Date Collected:	05.01.18 14.53	Sample Depth:	1.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.10.18 16.00	Basis:	Wet Weight
Seq Number:	3049739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1580**	24.8	mg/kg	05.10.18 22.02		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.18 16.00	Basis:	Wet Weight
Seq Number:	3049198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.05.18 02.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.05.18 02.56	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.05.18 02.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.05.18 02.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.05.18 02.56	
o-Terphenyl	84-15-1	95	%	70-135	05.05.18 02.56	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-6A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-003	Date Collected:	05.01.18 14.53	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.18 08.00	Basis:	Wet Weight
Seq Number:	3049669				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.18 21.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.18 21.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.09.18 21.05	
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.09.18 21.05	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-4A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-004	Date Collected:	05.01.18 15.10	Sample Depth:	1.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.10.18 16.00	Basis:	Wet Weight
Seq Number:	3049739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**483**	5.00	mg/kg	05.10.18 22.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.04.18 16.00	Basis:	Wet Weight
Seq Number:	3049198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.05.18 03.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.05.18 03.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	05.05.18 03.25	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.05.18 03.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.05.18 03.25	
o-Terphenyl	84-15-1	91	%	70-135	05.05.18 03.25	

Certificate of Analytical Results 584938

LT Environmental, Inc., Arvada, CO

BEU 56

Sample Id:	**SS-4A**	Matrix:	Soil	Date Received:	05.04.18 10.10
Lab Sample Id:	584938-004	Date Collected:	05.01.18 15.10	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.18 08.00	Basis:	Wet Weight
Seq Number:	3049669				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.09.18 21.26	U	1
Toluene	108-88-3	**0.00294**	0.00201	mg/kg	05.09.18 21.26		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.09.18 21.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.09.18 21.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.09.18 21.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.09.18 21.26	U	1
Total BTEX		**0.00294**	0.00201	mg/kg	05.09.18 21.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.09.18 21.26	
4-Bromofluorobenzene	460-00-4	84	%	70-130	05.09.18 21.26	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 584938

LT Environmental, Inc.

BEU 56

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3049739 — Matrix: Solid — Date Prep: 05.10.18
MB Sample Id: 7644489-1-BLK — LCS Sample Id: 7644489-1-BKS — LCSD Sample Id: 7644489-1-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	265	106	274	110	90-110	3	20	mg/kg	05.10.18 21:20	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3049739 — Matrix: Soil — Date Prep: 05.10.18
Parent Sample Id: 584937-005 — MS Sample Id: 584937-005 S — MSD Sample Id: 584937-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	411	250	658	99	642	92	90-110	2	20	mg/kg	05.10.18 21:38	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3049739 — Matrix: Soil — Date Prep: 05.10.18
Parent Sample Id: 584992-006 — MS Sample Id: 584992-006 S — MSD Sample Id: 584992-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1140	250	1330	76	1340	80	90-110	1	20	mg/kg	05.10.18 23:02	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3049198 — Matrix: Solid — Date Prep: 05.04.18
MB Sample Id: 7644166-1-BLK — LCS Sample Id: 7644166-1-BKS — LCSD Sample Id: 7644166-1-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	977	98	1000	100	70-135	2	20	mg/kg	05.04.18 19:02	
Diesel Range Organics (DRO)	<15.0	1000	1100	110	1120	112	70-135	2	20	mg/kg	05.04.18 19:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		105		102		70-135	%	05.04.18 19:02
o-Terphenyl	101		106		103		70-135	%	05.04.18 19:02

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 584938

LT Environmental, Inc.

BEU 56

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3049198 | Matrix: Soil | Date Prep: 05.04.18
Parent Sample Id: 584791-001 | MS Sample Id: 584791-001 S | MSD Sample Id: 584791-001 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	997	918	92	1000	100	70-135	9	20	mg/kg	05.04.18 20:20	
Diesel Range Organics (DRO)	57.5	997	1050	100	1130	107	70-135	7	20	mg/kg	05.04.18 20:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		115		70-135	%	05.04.18 20:20
o-Terphenyl	104		111		70-135	%	05.04.18 20:20

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3049669 | Matrix: Solid | Date Prep: 05.09.18
MB Sample Id: 7644468-1-BLK | LCS Sample Id: 7644468-1-BKS | LCSD Sample Id: 7644468-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.110	110	0.106	106	70-130	4	35	mg/kg	05.09.18 12:23	
Toluene	<0.00199	0.0996	0.110	110	0.105	105	70-130	5	35	mg/kg	05.09.18 12:23	
Ethylbenzene	<0.00199	0.0996	0.114	114	0.112	112	70-130	2	35	mg/kg	05.09.18 12:23	
m,p-Xylenes	<0.00398	0.199	0.241	121	0.233	117	70-130	3	35	mg/kg	05.09.18 12:23	
o-Xylene	<0.00199	0.0996	0.122	122	0.117	117	70-130	4	35	mg/kg	05.09.18 12:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		106		101		70-130	%	05.09.18 12:23
4-Bromofluorobenzene	94		110		99		70-130	%	05.09.18 12:23

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3049669 | Matrix: Soil | Date Prep: 05.09.18
Parent Sample Id: 584937-001 | MS Sample Id: 584937-001 S | MSD Sample Id: 584937-001 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	0.0986	99	0.0899	90	70-130	9	35	mg/kg	05.09.18 13:08	
Toluene	<0.00199	0.0994	0.0943	95	0.0882	88	70-130	7	35	mg/kg	05.09.18 13:08	
Ethylbenzene	<0.00199	0.0994	0.0999	101	0.0922	92	70-130	8	35	mg/kg	05.09.18 13:08	
m,p-Xylenes	<0.00398	0.199	0.207	104	0.193	97	70-130	7	35	mg/kg	05.09.18 13:08	
o-Xylene	<0.00199	0.0994	0.105	106	0.0991	99	70-130	6	35	mg/kg	05.09.18 13:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	05.09.18 13:08
4-Bromofluorobenzene	116		106		70-130	%	05.09.18 13:08

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

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

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

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

Final 1.000

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CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote # | Xenco Job # 580 4938

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@LTEnv.com | Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Glenn Thompson

Project Information

Project Name/Number: BEU 56
Project Location: New Mexico
Invoice To: XTO Energy - Kyle Littrell
PO Number: 3001522222 2RP-4126

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.i	Field Comments
1	SS-3A	1'	5/1/18	1139	S	1								1	X	X	X	
2	SS-5A	1'	↓	1150	S	1								1	X	X	X	
3	SS-6A	1.5'		1453	S	1								1	X	X	X	
4	SS-4A	1.5'		1510	S	1								1	X	X	X	
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Temp: 1.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.2

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/2/18 1720				
2					5/3/18 714	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						X / 4.0

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/04/2018 10:10:00 AM

Work Order #: 584938

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 05/04/2018

Checklist reviewed by: Jessica Kramer Date: 05/04/2018

Jessica Kramer

Analytical Report 587820

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU 056/012917059

012917059

07-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

07-JUN-18

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

Reference: XENCO Report No(s): **587820**
BEU 056/012917059
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 587820. 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. 587820 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

Sample Cross Reference 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-6B	S	05-29-18 11:00	2 - 5 ft	587820-001
SS-7	S	05-29-18 11:05	- 1 ft	587820-002
SS-8	S	05-29-18 11:10	1 - 5 ft	587820-003
SS-9	S	05-29-18 11:15	- 1 ft	587820-004
SS-10	S	05-29-18 11:20	- 1 ft	587820-005
SW-2	S	05-29-18 12:05	1 - 5 ft	587820-006
SW-3	S	05-29-18 12:10	1 - 5 ft	587820-007
SW-4	S	05-29-18 12:15	1 - 5 ft	587820-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 056/012917059

Project ID: *012917059*
Work Order Number(s): *587820*

Report Date: *07-JUN-18*
Date Received: *05/31/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052154 TPH by SW8015 Mod
Diesel Range Organics (DRO), Gasoline Range Hydrocarbons (GRO) RPD was outside laboratory control limits.
Samples in the analytical batch are: 587820-001, -002, -003, -004, -005, -006, -007, -008
The sample used as the MS/MSD, 587820-001, was a non-detect sample and is within both RPD and passing percentage to emulate the BKS/BSD. This sample therefore demonstrates the data provided is in control.

Batch: LBA-3052478 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3052644 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 587820

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056/012917059

Project Id: 012917059
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu May-31-18 04:37 pm
Report Date: 07-JUN-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	587820-001		587820-002		587820-003		587820-004		587820-005		587820-006	
	Field Id:	SS-6B		SS-7		SS-8		SS-9		SS-10		SW-2	
	Depth:	2-5 ft		1 ft		1-5 ft		1 ft		1 ft		1-5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-29-18 11:00		May-29-18 11:05		May-29-18 11:10		May-29-18 11:15		May-29-18 11:20		May-29-18 12:05	
BTEX by EPA 8021B	***Extracted:***	Jun-05-18 17:00		Jun-05-18 17:00		Jun-07-18 08:00		Jun-07-18 08:00		Jun-07-18 08:00		Jun-07-18 08:00	
	Analyzed:	Jun-06-18 10:15		Jun-06-18 09:57		Jun-07-18 12:24		Jun-07-18 12:42		Jun-07-18 13:00		Jun-07-18 13:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
m,p-Xylenes		<0.00402	0.00402	<0.00404	0.00404	<0.00398	0.00398	<0.00399	0.00399	<0.00397	0.00397	<0.00403	0.00403
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Inorganic Anions by EPA 300	***Extracted:***	Jun-05-18 11:00		Jun-05-18 11:00		Jun-05-18 11:00		Jun-05-18 11:00		Jun-05-18 11:00		Jun-05-18 11:00	
	Analyzed:	Jun-05-18 14:16		Jun-05-18 14:22		Jun-05-18 14:27		Jun-05-18 14:33		Jun-05-18 14:38		Jun-05-18 15:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9.87	4.95	13.3	4.98	98.0	4.95	188	5.00	43.1	4.95	1040	4.95
TPH by SW8015 Mod	***Extracted:***	Jun-01-18 16:00		Jun-01-18 16:00		Jun-01-18 16:00		Jun-01-18 16:00		Jun-01-18 16:00		Jun-01-18 16:00	
	Analyzed:	Jun-01-18 22:57		Jun-02-18 00:00		Jun-02-18 00:21		Jun-02-18 00:42		Jun-02-18 01:03		Jun-02-18 01:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	35.5	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	35.5	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 587820

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056/012917059

Project Id: 012917059
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu May-31-18 04:37 pm
Report Date: 07-JUN-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	587820-007		587820-008					
	Field Id:	SW-3		SW-4					
	Depth:	1-5 ft		1-5 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-29-18 12:10		May-29-18 12:15					
BTEX by EPA 8021B	***Extracted:***	Jun-07-18 08:00		Jun-07-18 08:00					
	Analyzed:	Jun-07-18 13:36		Jun-07-18 13:54					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199				
Toluene		<0.00200	0.00200	<0.00199	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199				
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	Jun-05-18 11:00		Jun-05-18 11:00					
	Analyzed:	Jun-05-18 15:05		Jun-05-18 15:21					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		310	4.99	45.2	4.95				
TPH by SW8015 Mod	***Extracted:***	Jun-01-18 16:00		Jun-01-18 16:00					
	Analyzed:	Jun-02-18 01:44		Jun-02-18 02:05					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-6B**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-001	Date Collected:	05.29.18 11.00	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.87**	4.95	mg/kg	06.05.18 14.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.01.18 22.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.01.18 22.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.01.18 22.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.01.18 22.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.01.18 22.57	
o-Terphenyl	84-15-1	98	%	70-135	06.01.18 22.57	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-6B**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-001	Date Collected:	05.29.18 11.00	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 17.00	Basis:	Wet Weight
Seq Number:	3052478				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.06.18 10.15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.06.18 10.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.06.18 10.15	
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.06.18 10.15	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-7**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-002	Date Collected:	05.29.18 11.05	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.3**	4.98	mg/kg	06.05.18 14.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 00.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.02.18 00.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 00.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.02.18 00.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.02.18 00.00	
o-Terphenyl	84-15-1	117	%	70-135	06.02.18 00.00	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-7**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-002	Date Collected:	05.29.18 11.05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 17.00	Basis:	Wet Weight
Seq Number:	3052478				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.06.18 09.57	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.06.18 09.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.06.18 09.57	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.06.18 09.57	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-8**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-003	Date Collected:	05.29.18 11.10	Sample Depth:	1 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**98.0**	4.95	mg/kg	06.05.18 14.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 00.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.02.18 00.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 00.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.02.18 00.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.02.18 00.21	
o-Terphenyl	84-15-1	109	%	70-135	06.02.18 00.21	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-8**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-003	Date Collected:	05.29.18 11.10	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.07.18 12.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.07.18 12.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.07.18 12.24	
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.07.18 12.24	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id: **SS-9** Matrix: Soil Date Received:05.31.18 16.37

Lab Sample Id: 587820-004 Date Collected: 05.29.18 11.15 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: SCM % Moisture:

Analyst: SCM Date Prep: 06.05.18 11.00 Basis: Wet Weight

Seq Number: 3052393

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**188**	5.00	mg/kg	06.05.18 14.33		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 06.01.18 16.00 Basis: Wet Weight

Seq Number: 3052154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 00.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.02.18 00.42	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 00.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.02.18 00.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.02.18 00.42	
o-Terphenyl	84-15-1	102	%	70-135	06.02.18 00.42	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-9**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-004	Date Collected:	05.29.18 11.15	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.07.18 12.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.07.18 12.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	75	%	70-130	06.07.18 12.42	
4-Bromofluorobenzene	460-00-4	93	%	70-130	06.07.18 12.42	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id: **SS-10** Matrix: Soil Date Received:05.31.18 16.37

Lab Sample Id: 587820-005 Date Collected: 05.29.18 11.20 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: SCM % Moisture:

Analyst: SCM Date Prep: 06.05.18 11.00 Basis: Wet Weight

Seq Number: 3052393

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.1**	4.95	mg/kg	06.05.18 14.38		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 06.01.18 16.00 Basis: Wet Weight

Seq Number: 3052154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.02.18 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.02.18 01.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	06.02.18 01.03	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.02.18 01.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	06.02.18 01.03	
o-Terphenyl	84-15-1	91	%	70-135	06.02.18 01.03	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SS-10**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-005	Date Collected:	05.29.18 11.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.07.18 13.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.07.18 13.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.07.18 13.00	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.07.18 13.00	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-006	Date Collected:	05.29.18 12.05	Sample Depth:	1 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	4.95	mg/kg	06.05.18 15.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 01.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	**35.5**	15.0	mg/kg	06.02.18 01.24		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 01.24	U	1
Total TPH	PHC635	**35.5**	15.0	mg/kg	06.02.18 01.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	06.02.18 01.24	
o-Terphenyl	84-15-1	83	%	70-135	06.02.18 01.24	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-006	Date Collected:	05.29.18 12.05	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.07.18 13.18	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.07.18 13.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	06.07.18 13.18	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.07.18 13.18	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-007	Date Collected:	05.29.18 12.10	Sample Depth:	1 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**310**	4.99	mg/kg	06.05.18 15.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 01.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.02.18 01.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 01.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.02.18 01.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	06.02.18 01.44	
o-Terphenyl	84-15-1	109	%	70-135	06.02.18 01.44	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-007	Date Collected:	05.29.18 12.10	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.07.18 13.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.07.18 13.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.07.18 13.36	
4-Bromofluorobenzene	460-00-4	91	%	70-130	06.07.18 13.36	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-008	Date Collected:	05.29.18 12.15	Sample Depth:	1 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.05.18 11.00	Basis:	Wet Weight
Seq Number:	3052393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.2**	4.95	mg/kg	06.05.18 15.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.01.18 16.00	Basis:	Wet Weight
Seq Number:	3052154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.02.18 02.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.02.18 02.05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.02.18 02.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.02.18 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	06.02.18 02.05	
o-Terphenyl	84-15-1	89	%	70-135	06.02.18 02.05	

Certificate of Analytical Results 587820

LT Environmental, Inc., Arvada, CO

BEU 056/012917059

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	05.31.18 16.37
Lab Sample Id:	587820-008	Date Collected:	05.29.18 12.15	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.07.18 08.00	Basis:	Wet Weight
Seq Number:	3052644				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.07.18 13.54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.07.18 13.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.07.18 13.54	
1,4-Difluorobenzene	540-36-3	120	%	70-130	06.07.18 13.54	

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 587820

LT Environmental, Inc.

BEU 056/012917059

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3052393 Matrix: Solid Date Prep: 06.05.18
MB Sample Id: 7656039-1-BLK LCS Sample Id: 7656039-1-BKS LCSD Sample Id: 7656039-1-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	275	110	275	110	90-110	0	20	mg/kg	06.05.18 13:17	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3052393 Matrix: Soil Date Prep: 06.05.18
Parent Sample Id: 587837-007 MS Sample Id: 587837-007 S MSD Sample Id: 587837-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.16	250	283	110	284	110	90-110	0	20	mg/kg	06.05.18 13:33	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3052393 Matrix: Soil Date Prep: 06.05.18
Parent Sample Id: 587837-008 MS Sample Id: 587837-008 S MSD Sample Id: 587837-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.97	249	273	110	272	109	90-110	0	20	mg/kg	06.05.18 14:49	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3052154 Matrix: Solid Date Prep: 06.01.18
MB Sample Id: 7655905-1-BLK LCS Sample Id: 7655905-1-BKS LCSD Sample Id: 7655905-1-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	884	88	1160	116	70-135	27	20	mg/kg	06.01.18 22:14	F
Diesel Range Organics (DRO)	<15.0	1000	946	95	1230	123	70-135	26	20	mg/kg	06.01.18 22:14	F

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		115		128		70-135	%	06.01.18 22:14
o-Terphenyl	90		114		126		70-135	%	06.01.18 22:14

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 587820

LT Environmental, Inc.

BEU 056/012917059

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3052154 — Matrix: Soil — Date Prep: 06.01.18
Parent Sample Id: 587820-001 — MS Sample Id: 587820-001 S — MSD Sample Id: 587820-001 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	981	98	911	91	70-135	7	20	mg/kg	06.01.18 23:18	
Diesel Range Organics (DRO)	<15.0	998	1080	108	996	100	70-135	8	20	mg/kg	06.01.18 23:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		102		70-135	%	06.01.18 23:18
o-Terphenyl	107		97		70-135	%	06.01.18 23:18

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3052478 — Matrix: Solid — Date Prep: 06.05.18
MB Sample Id: 7656132-1-BLK — LCS Sample Id: 7656132-1-BKS — LCSD Sample Id: 7656132-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0896	89	0.0927	93	70-130	3	35	mg/kg	06.06.18 05:37	
Toluene	<0.00202	0.101	0.0939	93	0.0979	98	70-130	4	35	mg/kg	06.06.18 05:37	
Ethylbenzene	<0.00202	0.101	0.0917	91	0.0967	97	70-130	5	35	mg/kg	06.06.18 05:37	
m,p-Xylenes	<0.00403	0.202	0.190	94	0.199	100	70-130	5	35	mg/kg	06.06.18 05:37	
o-Xylene	<0.00202	0.101	0.0892	88	0.0944	94	70-130	6	35	mg/kg	06.06.18 05:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		93		95		70-130	%	06.06.18 05:37
4-Bromofluorobenzene	79		90		94		70-130	%	06.06.18 05:37

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3052644 — Matrix: Solid — Date Prep: 06.07.18
MB Sample Id: 7656204-1-BLK — LCS Sample Id: 7656204-1-BKS — LCSD Sample Id: 7656204-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0939	94	0.0973	96	70-130	4	35	mg/kg	06.07.18 09:23	
Toluene	<0.00201	0.100	0.100	100	0.102	101	70-130	2	35	mg/kg	06.07.18 09:23	
Ethylbenzene	<0.00201	0.100	0.0987	99	0.101	100	70-130	2	35	mg/kg	06.07.18 09:23	
m,p-Xylenes	<0.00402	0.201	0.206	102	0.211	104	70-130	2	35	mg/kg	06.07.18 09:23	
o-Xylene	<0.00201	0.100	0.0936	94	0.0986	98	70-130	5	35	mg/kg	06.07.18 09:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		93		99		70-130	%	06.07.18 09:23
4-Bromofluorobenzene	94		93		94		70-130	%	06.07.18 09:23

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

QC Summary 587820

LT Environmental, Inc.

BEU 056/012917059

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

Seq Number: 3052478 Matrix: Soil Date Prep: 06.05.18

Parent Sample Id: 587888-008 MS Sample Id: 587888-008 S MSD Sample Id: 587888-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0884	88	0.0817	82	70-130	8	35	mg/kg	06.06.18 06:14	
Toluene	<0.00200	0.100	0.0943	94	0.0862	86	70-130	9	35	mg/kg	06.06.18 06:14	
Ethylbenzene	<0.00200	0.100	0.0916	92	0.0831	83	70-130	10	35	mg/kg	06.06.18 06:14	
m,p-Xylenes	<0.00401	0.200	0.189	95	0.171	86	70-130	10	35	mg/kg	06.06.18 06:14	
o-Xylene	<0.00200	0.100	0.0890	89	0.0807	81	70-130	10	35	mg/kg	06.06.18 06:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		95		70-130	%	06.06.18 06:14
4-Bromofluorobenzene	93		95		70-130	%	06.06.18 06:14

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

Seq Number: 3052644 Matrix: Soil Date Prep: 06.07.18

Parent Sample Id: 588382-001 MS Sample Id: 588382-001 S MSD Sample Id: 588382-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0755	75	0.0768	77	70-130	2	35	mg/kg	06.07.18 09:59	
Toluene	<0.00202	0.101	0.0776	77	0.0761	76	70-130	2	35	mg/kg	06.07.18 09:59	
Ethylbenzene	<0.00202	0.101	0.0710	70	0.0662	66	70-130	7	35	mg/kg	06.07.18 09:59	X
m,p-Xylenes	<0.00403	0.202	0.148	73	0.137	68	70-130	8	35	mg/kg	06.07.18 09:59	X
o-Xylene	<0.00202	0.101	0.0710	70	0.0659	66	70-130	7	35	mg/kg	06.07.18 09:59	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		109		70-130	%	06.07.18 09:59
4-Bromofluorobenzene	100		108		70-130	%	06.07.18 09:59

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@LTEnv.com | Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Daniel Thomas

Project Information

Project Name/Number: BEU 056 / 012917059
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP-4126

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	SS-6B	2.5'	5-29-18	1100	soil	1								X	X	X	X	
2	SS-7	1'		1105														
3	SS-8	1.75'		1110														
4	SS-9	1'		1115														
5	SS-10	1'		1120														
6	SW-2	1.5'		1205														
7	SW-3	1.5'		1210														
8	SW-4	1.5'		1215														
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] Standard

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5-29-18 1637		2	5/30 15:30	2 5/31/18 16:16
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 1 R8 Thermo. Corr. Factor 0.0

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/31/2018 04:37:00 PM

Work Order #: 587820

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/31/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/01/2018
Jessica Kramer

Analytical Report 619718

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU 056

09-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

09-APR-19

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

Reference: XENCO Report No(s): **619718**
BEU 056
Project Address: ---

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 619718. 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. 619718 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,

Kalei Stout
Midland Laboratory Director

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

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

Sample Cross Reference 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	03-28-19 13:35	0 - 1 ft	619718-001
FS01	S	03-28-19 12:50	1 ft	619718-002
FS02	S	03-28-19 13:00	1 ft	619718-003
FS03	S	03-28-19 13:10	1 ft	619718-004
FS04	S	03-28-19 13:20	2 ft	619718-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 056

Project ID: ---
Work Order Number(s): *619718*

Report Date: *09-APR-19*
Date Received: *04/02/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3084839 BTEX by EPA 8021B

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

Certificate of Analysis Summary 619718

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: ---
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Tue Apr-02-19 11:45 am
Report Date: 09-APR-19
Project Manager: Kalei Stout

Analysis Requested											
	Lab Id:	619718-001		619718-002		619718-003		619718-004		619718-005	
	Field Id:	SW01		FS01		FS02		FS03		FS04	
	Depth:	0-1 ft		1- ft		1- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-19 13:35		Mar-28-19 12:50		Mar-28-19 13:00		Mar-28-19 13:10		Mar-28-19 13:20	
BTEX by EPA 8021B	***Extracted:***	Apr-05-19 12:00		Apr-05-19 12:00		Apr-05-19 12:00		Apr-05-19 12:00		Apr-05-19 12:00	
	Analyzed:	Apr-06-19 04:43		Apr-06-19 05:02		Apr-06-19 05:21		Apr-06-19 05:40		Apr-06-19 05:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00403	0.00403	<0.00397	0.00397	<0.00402	0.00402	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Apr-04-19 14:00		Apr-04-19 14:00		Apr-04-19 14:00		Apr-04-19 14:00		Apr-04-19 15:20	
	Analyzed:	Apr-05-19 21:35		Apr-05-19 21:42		Apr-05-19 21:49		Apr-05-19 21:55		Apr-06-19 19:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		399	4.99	134	5.00	234	5.00	31.7	5.00	9.94	4.95
TPH by SW8015 Mod	***Extracted:***	Apr-05-19 07:00		Apr-05-19 07:00		Apr-05-19 07:00		Apr-05-19 07:00		Apr-05-19 07:00	
	Analyzed:	Apr-05-19 16:15		Apr-05-19 16:37		Apr-05-19 16:59		Apr-05-19 17:20		Apr-05-19 17:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total GRO-DRO		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

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

Kalei Stout
Midland Laboratory Director

Final 1.000

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-001	Date Collected:	03.28.19 13.35	Sample Depth:	0 - 1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 14.00	Basis:	Wet Weight
Seq Number:	3084861				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**399**	4.99	mg/kg	04.05.19 21.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 07.00	Basis:	Wet Weight
Seq Number:	3084904				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.05.19 16.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.05.19 16.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.05.19 16.15	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.05.19 16.15	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.05.19 16.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	04.05.19 16.15	
o-Terphenyl	84-15-1	75	%	70-135	04.05.19 16.15	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-001	Date Collected:	03.28.19 13.35	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.05.19 12.00	Basis:	Wet Weight
Seq Number:	3084839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.06.19 04.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.06.19 04.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	04.06.19 04.43	
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.06.19 04.43	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-002	Date Collected:	03.28.19 12.50	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 14.00	Basis:	Wet Weight
Seq Number:	3084861				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**134**	5.00	mg/kg	04.05.19 21.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 07.00	Basis:	Wet Weight
Seq Number:	3084904				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 16.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.05.19 16.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 16.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.05.19 16.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.05.19 16.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	04.05.19 16.37	
o-Terphenyl	84-15-1	77	%	70-135	04.05.19 16.37	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-002	Date Collected:	03.28.19 12.50	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.05.19 12.00	Basis:	Wet Weight
Seq Number:	3084839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.06.19 05.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.06.19 05.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.06.19 05.02	
4-Bromofluorobenzene	460-00-4	105	%	70-130	04.06.19 05.02	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-003	Date Collected:	03.28.19 13.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 14.00	Basis:	Wet Weight
Seq Number:	3084861				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**234**	5.00	mg/kg	04.05.19 21.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 07.00	Basis:	Wet Weight
Seq Number:	3084904				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 16.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.05.19 16.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 16.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.05.19 16.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.05.19 16.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	04.05.19 16.59	
o-Terphenyl	84-15-1	72	%	70-135	04.05.19 16.59	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-003	Date Collected:	03.28.19 13.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.05.19 12.00	Basis:	Wet Weight
Seq Number:	3084839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.06.19 05.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.06.19 05.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	04.06.19 05.21	
4-Bromofluorobenzene	460-00-4	86	%	70-130	04.06.19 05.21	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-004	Date Collected:	03.28.19 13.10	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 14.00	Basis:	Wet Weight
Seq Number:	3084861				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.7**	5.00	mg/kg	04.05.19 21.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 07.00	Basis:	Wet Weight
Seq Number:	3084904				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.05.19 17.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.05.19 17.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.05.19 17.20	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.05.19 17.20	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.05.19 17.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-135	04.05.19 17.20	
o-Terphenyl	84-15-1	71	%	70-135	04.05.19 17.20	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-004	Date Collected:	03.28.19 13.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.05.19 12.00	Basis:	Wet Weight
Seq Number:	3084839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.06.19 05.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.06.19 05.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.06.19 05.40	
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.06.19 05.40	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-005	Date Collected:	03.28.19 13.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.94**	4.95	mg/kg	04.06.19 19.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 07.00	Basis:	Wet Weight
Seq Number:	3084904				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.05.19 17.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 17.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.05.19 17.42	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.05.19 17.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-135	04.05.19 17.42	
o-Terphenyl	84-15-1	70	%	70-135	04.05.19 17.42	

Certificate of Analytical Results 619718

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	04.02.19 11.45
Lab Sample Id:	619718-005	Date Collected:	03.28.19 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.05.19 12.00	Basis:	Wet Weight
Seq Number:	3084839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.06.19 05.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.06.19 05.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.06.19 05.59	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.06.19 05.59	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 619718

LT Environmental, Inc.

BEU 056

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084861 — Matrix: Solid — Date Prep: 04.04.19
MB Sample Id: 7675138-1-BLK — LCS Sample Id: 7675138-1-BKS — LCSD Sample Id: 7675138-1-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	245	98	252	101	90-110	3	20	mg/kg	04.05.19 18:38	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084865 — Matrix: Solid — Date Prep: 04.04.19
MB Sample Id: 7675143-1-BLK — LCS Sample Id: 7675143-1-BKS — LCSD Sample Id: 7675143-1-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	271	108	226	90	90-110	18	20	mg/kg	04.06.19 16:39	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084861 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619630-002 — MS Sample Id: 619630-002 S — MSD Sample Id: 619630-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	145	250	396	100	419	110	90-110	6	20	mg/kg	04.05.19 20:34	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084861 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619708-001 — MS Sample Id: 619708-001 S — MSD Sample Id: 619708-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.02	252	265	104	267	105	90-110	1	20	mg/kg	04.05.19 18:59	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084865 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619567-016 — MS Sample Id: 619567-016 S — MSD Sample Id: 619567-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.1	252	295	109	283	105	90-110	4	20	mg/kg	04.06.19 16:59	

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

QC Summary 619718

LT Environmental, Inc.

BEU 056

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3084865 Matrix: Soil Date Prep: 04.04.19
Parent Sample Id: 619598-013 MS Sample Id: 619598-013 S MSD Sample Id: 619598-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.0	250	233	82	302	110	90-110	26	20	mg/kg	04.06.19 18:41	XF

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084904 Matrix: Solid Date Prep: 04.05.19
MB Sample Id: 7675251-1-BLK LCS Sample Id: 7675251-1-BKS LCSD Sample Id: 7675251-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	941	94	980	98	70-135	4	20	mg/kg	04.05.19 09:04	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1040	104	70-135	4	20	mg/kg	04.05.19 09:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		121		124		70-135	%	04.05.19 09:04
o-Terphenyl	104		116		120		70-135	%	04.05.19 09:04

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084904 Matrix: Soil Date Prep: 04.05.19
Parent Sample Id: 619725-001 MS Sample Id: 619725-001 S MSD Sample Id: 619725-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	925	93	959	96	70-135	4	20	mg/kg	04.05.19 10:04	
Diesel Range Organics (DRO)	<8.12	999	984	98	1020	102	70-135	4	20	mg/kg	04.05.19 10:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		120		70-135	%	04.05.19 10:04
o-Terphenyl	107		113		70-135	%	04.05.19 10:04

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

QC Summary 619718

LT Environmental, Inc.

BEU 056

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

Seq Number: 3084839 Matrix: Solid Date Prep: 04.05.19

MB Sample Id: 7675213-1-BLK LCS Sample Id: 7675213-1-BKS LCSD Sample Id: 7675213-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.0925	93	0.0923	92	70-130	0	35	mg/kg	04.05.19 21:29	
Toluene	<0.000454	0.0996	0.0980	98	0.0973	97	70-130	1	35	mg/kg	04.05.19 21:29	
Ethylbenzene	<0.000563	0.0996	0.0920	92	0.0905	91	70-130	2	35	mg/kg	04.05.19 21:29	
m,p-Xylenes	<0.00101	0.199	0.182	91	0.181	91	70-130	1	35	mg/kg	04.05.19 21:29	
o-Xylene	<0.000343	0.0996	0.0930	93	0.0942	94	70-130	1	35	mg/kg	04.05.19 21:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		97		98		70-130	%	04.05.19 21:29
4-Bromofluorobenzene	90		94		100		70-130	%	04.05.19 21:29

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

Seq Number: 3084839 Matrix: Soil Date Prep: 04.05.19

Parent Sample Id: 619979-001 MS Sample Id: 619979-001 S MSD Sample Id: 619979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0944	93	0.0828	83	70-130	13	35	mg/kg	04.05.19 22:07	
Toluene	<0.000459	0.101	0.101	100	0.0878	89	70-130	14	35	mg/kg	04.05.19 22:07	
Ethylbenzene	<0.000569	0.101	0.0935	93	0.0814	82	70-130	14	35	mg/kg	04.05.19 22:07	
m,p-Xylenes	<0.00102	0.202	0.184	91	0.161	81	70-130	13	35	mg/kg	04.05.19 22:07	
o-Xylene	<0.000347	0.101	0.0958	95	0.0842	85	70-130	13	35	mg/kg	04.05.19 22:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	04.05.19 22:07
4-Bromofluorobenzene	101		100		70-130	%	04.05.19 22:07

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: 619718

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 1 of 1

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

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 056	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4126	Rush:	
Sampler's Name:	Robert M.	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.5/0.4	Thermometer ID:	(CC)
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW01	S	03/28/19	1335	0-1'	1	X	X	X
FS01		03/29/19	1250	1'		X	X	X
FS02			1300	1'		X	X	X
FS03			1310	1'		X	X	X
FS04			1320	2'		X	X	X

Work Order Notes

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

Sample Comments

Composite

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		15:46 3/29/19	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

ORIGIN ID:CAOA (575) 887-6245
XENCO
PAC N MAIL
910 W PIERCE ST
CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 01APR19
ACTWGT: 36.00 LB
CAD: 101813706/INET4100
DIMS: 24x15x13 IN

BILL RECIPIENT

TO HOLD FOR XENCO
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S
MIDLAND TX 79711
(806) 794-1296
INV:
PO:
REF:
DEPT:

565J1/D7E5/23AD

J191019010701uv

FedEx Express

TUE - 02 APR HOLD
STANDARD OVERNIGHT
HLD

TRK# 0201 7748 5441 3622

41 MAFA

MAFA
LBB
TX-US

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/02/2019 11:45:00 AM

Work Order #: 619718

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/02/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/04/2019

Kalei Stout

Analytical Report 619719

for

LT Environmental, Inc.

Project Manager: Adrian Baker

BEU 056

10-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

10-APR-19

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

Reference: XENCO Report No(s): **619719**
BEU 056
Project Address: ---

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 619719. 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. 619719 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,

Kalei Stout
Midland Laboratory Director

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

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

Sample Cross Reference 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	03-25-19 13:50	10 ft	619719-001
PH01A	S	03-25-19 15:30	19 ft	619719-002
PH02	S	03-25-19 09:10	3 ft	619719-003
PH02A	S	03-25-19 09:50	10 ft	619719-004
PH03	S	03-25-19 12:20	4 ft	619719-005
PH03A	S	03-25-19 12:50	9.5 ft	619719-006
PH04	S	03-27-19 16:00	5 ft	619719-007
PH04A	S	03-28-19 09:15	8.5 ft	619719-008
PH05	S	03-27-19 10:49	13 ft	619719-009
PH05A	S	03-27-19 15:30	11 ft	619719-010
PH06	S	03-29-19 00:00	ft	619719-011
PH06A	S	03-29-19 00:00	ft	619719-012
PH07	S	03-29-19 00:00	ft	619719-013
PH07A	S	03-29-19 00:00	ft	619719-014

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 056

Project ID: ----
Work Order Number(s): *619719*

Report Date: *10-APR-19*
Date Received: *04/02/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3084888 Inorganic Anions by EPA 300
Lab Sample ID 619719-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 619719-008, -009, -010, -011, -012, -013, -014.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Chloride Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 619719-008, -009, -010, -011, -012, -013, -014

Batch: LBA-3084923 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 619719-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 619719-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3085025 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 619719-012,619719-008.

Certificate of Analysis Summary 619719

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: ----
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Tue Apr-02-19 12:04 pm
Report Date: 10-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619719-001		619719-002		619719-003		619719-004		619719-005		619719-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	10- ft		19- ft		3- ft		10- ft		4- ft		9.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-25-19 13:50		Mar-25-19 15:30		Mar-25-19 09:10		Mar-25-19 09:50		Mar-25-19 12:20		Mar-25-19 12:50	
BTEX by EPA 8021B	***Extracted:***	Apr-08-19 09:00		Apr-08-19 09:00		Apr-08-19 09:00		Apr-08-19 09:00		Apr-08-19 09:00		Apr-08-19 09:00	
	Analyzed:	Apr-08-19 12:12		Apr-08-19 15:12		Apr-08-19 15:31		Apr-08-19 15:50		Apr-08-19 16:09		Apr-08-19 16:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00404	0.00404	<0.00397	0.00397	<0.00396	0.00396	<0.00400	0.00400	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Apr-04-19 15:20		Apr-04-19 15:20		Apr-04-19 15:20		Apr-04-19 15:20		Apr-04-19 15:20		Apr-04-19 15:20	
	Analyzed:	Apr-06-19 19:29		Apr-06-19 19:36		Apr-06-19 19:43		Apr-06-19 19:49		Apr-06-19 19:56		Apr-06-19 20:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4150	50.3	609	24.9	468	25.2	1780	25.0	670	25.0	2760	25.0
TPH by SW8015 Mod	***Extracted:***	Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00	
	Analyzed:	Apr-06-19 18:43		Apr-07-19 09:54		Apr-06-19 19:25		Apr-06-19 19:45		Apr-06-19 20:47		Apr-06-19 21:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

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Version: 1.%

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 619719

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: ----
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Tue Apr-02-19 12:04 pm
Report Date: 10-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	619719-007		619719-008		619719-009		619719-010		619719-011		619719-012	
	Field Id:	PH04		PH04A		PH05		PH05A		PH06		PH06A	
	Depth:	5- ft		8.5- ft		13- ft		11- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-27-19 16:00		Mar-28-19 09:15		Mar-27-19 10:49		Mar-27-19 15:30		Mar-29-19 00:00		Mar-29-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-08-19 13:00		Apr-08-19 13:00		Apr-08-19 13:00		Apr-08-19 13:00		Apr-08-19 13:00		Apr-08-19 13:00	
	Analyzed:	Apr-09-19 05:35		Apr-09-19 07:27		Apr-09-19 07:46		Apr-09-19 08:05		Apr-09-19 08:24		Apr-09-19 08:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00397	0.00397	<0.00398	0.00398	<0.00403	0.00403	<0.00399	0.00399	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Apr-04-19 15:20		Apr-04-19 16:00		Apr-04-19 16:00		Apr-04-19 16:00		Apr-04-19 16:00		Apr-04-19 16:00	
	Analyzed:	Apr-06-19 23:54		Apr-06-19 21:31		Apr-06-19 21:38		Apr-06-19 21:11		Apr-06-19 22:53		Apr-06-19 21:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2400	25.2	1880	25.0	380	5.01	156	4.99	479	4.97	341	25.2
TPH by SW8015 Mod	***Extracted:***	Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00		Apr-06-19 08:00	
	Analyzed:	Apr-06-19 21:27		Apr-06-19 21:47		Apr-06-19 22:08		Apr-06-19 22:28		Apr-06-19 22:48		Apr-06-19 23:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

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Version: 1.%

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 619719

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: ----
Contact: Adrian Baker
Project Location: ---

Date Received in Lab: Tue Apr-02-19 12:04 pm
Report Date: 10-APR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	619719-013		619719-014					
	Field Id:	PH07		PH07A					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Mar-29-19 00:00		Mar-29-19 00:00					
BTEX by EPA 8021B	***Extracted:***	Apr-08-19 13:00		Apr-08-19 13:00					
	Analyzed:	Apr-09-19 09:02		Apr-09-19 09:21					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00199	0.00199				
Toluene		<0.00199	0.00199	<0.00199	0.00199				
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199				
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398				
o-Xylene		<0.00199	0.00199	<0.00199	0.00199				
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199				
Total BTEX		<0.00199	0.00199	<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	Apr-04-19 16:00		Apr-04-19 16:00					
	Analyzed:	Apr-06-19 21:52		Apr-06-19 22:19					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		268	4.95	368	24.9				
TPH by SW8015 Mod	***Extracted:***	Apr-06-19 08:00		Apr-06-19 08:00					
	Analyzed:	Apr-06-19 23:28		Apr-06-19 23:48					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0				
Total TPH		<14.9	14.9	<15.0	15.0				
Total GRO-DRO		<14.9	14.9	<15.0	15.0				

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Version: 1.%

Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-001	Date Collected:	03.25.19 13.50	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4150**	50.3	mg/kg	04.06.19 19.29		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.06.19 18.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.06.19 18.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.06.19 18.43	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.06.19 18.43	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.06.19 18.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.06.19 18.43	
o-Terphenyl	84-15-1	92	%	70-135	04.06.19 18.43	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-001	Date Collected:	03.25.19 13.50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.08.19 12.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.08.19 12.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.08.19 12.12	
1,4-Difluorobenzene	540-36-3	94	%	70-130	04.08.19 12.12	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-002	Date Collected:	03.25.19 15.30	Sample Depth:	19 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**609**	24.9	mg/kg	04.06.19 19.36		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.07.19 09.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.07.19 09.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.07.19 09.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.07.19 09.54	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.07.19 09.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.07.19 09.54	
o-Terphenyl	84-15-1	94	%	70-135	04.07.19 09.54	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-002	Date Collected:	03.25.19 15.30	Sample Depth:	19 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.08.19 15.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.08.19 15.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.08.19 15.12	
1,4-Difluorobenzene	540-36-3	90	%	70-130	04.08.19 15.12	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-003	Date Collected:	03.25.19 09.10	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**468**	25.2	mg/kg	04.06.19 19.43		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.06.19 19.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.06.19 19.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.06.19 19.25	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.06.19 19.25	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.06.19 19.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.06.19 19.25	
o-Terphenyl	84-15-1	92	%	70-135	04.06.19 19.25	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-003	Date Collected:	03.25.19 09.10	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.08.19 15.31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.08.19 15.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.08.19 15.31	
1,4-Difluorobenzene	540-36-3	95	%	70-130	04.08.19 15.31	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-004	Date Collected:	03.25.19 09.50	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1780**	25.0	mg/kg	04.06.19 19.49		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 19.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 19.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 19.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 19.45	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 19.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.06.19 19.45	
o-Terphenyl	84-15-1	92	%	70-135	04.06.19 19.45	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-004	Date Collected:	03.25.19 09.50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.08.19 15.50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.08.19 15.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.08.19 15.50	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.08.19 15.50	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-005	Date Collected:	03.25.19 12.20	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**670**	25.0	mg/kg	04.06.19 19.56		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 20.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 20.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 20.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 20.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 20.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.06.19 20.47	
o-Terphenyl	84-15-1	91	%	70-135	04.06.19 20.47	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-005	Date Collected:	03.25.19 12.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.08.19 16.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.08.19 16.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	04.08.19 16.09	
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.08.19 16.09	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-006	Date Collected:	03.25.19 12.50	Sample Depth:	9.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2760**	25.0	mg/kg	04.06.19 20.03		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 21.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 21.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.06.19 21.07	
o-Terphenyl	84-15-1	94	%	70-135	04.06.19 21.07	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-006	Date Collected:	03.25.19 12.50	Sample Depth:	9.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 09.00	Basis:	Wet Weight
Seq Number:	3084923				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.08.19 16.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.08.19 16.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.08.19 16.29	
4-Bromofluorobenzene	460-00-4	103	%	70-130	04.08.19 16.29	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-007	Date Collected:	03.27.19 16.00	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 15.20	Basis:	Wet Weight
Seq Number:	3084865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2400**	25.2	mg/kg	04.06.19 23.54		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 21.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 21.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 21.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 21.27	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 21.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.06.19 21.27	
o-Terphenyl	84-15-1	93	%	70-135	04.06.19 21.27	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-007	Date Collected:	03.27.19 16.00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.09.19 05.35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.09.19 05.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	04.09.19 05.35	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.09.19 05.35	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-008	Date Collected:	03.28.19 09.15	Sample Depth:	8.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 16.00	Basis:	Wet Weight
Seq Number:	3084888				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1880**	25.0	mg/kg	04.06.19 21.31		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 21.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 21.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 21.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 21.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 21.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	04.06.19 21.47	
o-Terphenyl	84-15-1	85	%	70-135	04.06.19 21.47	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-008	Date Collected:	03.28.19 09.15	Sample Depth:	8.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.09.19 07.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.09.19 07.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	131	%	70-130	04.09.19 07.27	**
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.09.19 07.27	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH05**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-009	Date Collected:	03.27.19 10.49	Sample Depth:	13 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 16.00	Basis:	Wet Weight
Seq Number:	3084888				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**380**	5.01	mg/kg	04.06.19 21.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.06.19 22.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.06.19 22.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.06.19 22.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.06.19 22.08	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.06.19 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.06.19 22.08	
o-Terphenyl	84-15-1	86	%	70-135	04.06.19 22.08	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH05**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-009	Date Collected:	03.27.19 10.49	Sample Depth:	13 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.09.19 07.46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.09.19 07.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	04.09.19 07.46	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.09.19 07.46	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-010	Date Collected:	03.27.19 15.30	Sample Depth:	11 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 16.00	Basis:	Wet Weight
Seq Number:	3084888				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**156**	4.99	mg/kg	04.06.19 21.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 22.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 22.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 22.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 22.28	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 22.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.06.19 22.28	
o-Terphenyl	84-15-1	87	%	70-135	04.06.19 22.28	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-010	Date Collected:	03.27.19 15.30	Sample Depth:	11 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.09.19 08.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.09.19 08.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	04.09.19 08.05	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.09.19 08.05	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-011	Date Collected:	03.29.19 00.00		

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.04.19 16.00	Basis:	Wet Weight
Seq Number:	3084888				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**479**	4.97	mg/kg	04.06.19 22.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.06.19 08.00	Basis:	Wet Weight
Seq Number:	3084907				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 22.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 22.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 22.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 22.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 22.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.06.19 22.48	
o-Terphenyl	84-15-1	89	%	70-135	04.06.19 22.48	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-011	Date Collected:	03.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.09.19 08.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.09.19 08.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	04.09.19 08.24	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.09.19 08.24	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id: **PH06A** Matrix: Soil Date Received:04.02.19 12.04

Lab Sample Id: 619719-012 Date Collected: 03.29.19 00.00

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 04.04.19 16.00 Basis: Wet Weight

Seq Number: 3084888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**341**	25.2	mg/kg	04.06.19 21.45		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 04.06.19 08.00 Basis: Wet Weight

Seq Number: 3084907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 23.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 23.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 23.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 23.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 23.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.06.19 23.08	
o-Terphenyl	84-15-1	90	%	70-135	04.06.19 23.08	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-012	Date Collected:	03.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.09.19 08.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.09.19 08.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	134	%	70-130	04.09.19 08.43	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.09.19 08.43	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id: **PH07** Matrix: Soil Date Received:04.02.19 12.04

Lab Sample Id: 619719-013 Date Collected: 03.29.19 00.00

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 04.04.19 16.00 Basis: Wet Weight

Seq Number: 3084888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**268**	4.95	mg/kg	04.06.19 21.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 04.06.19 08.00 Basis: Wet Weight

Seq Number: 3084907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.06.19 23.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.06.19 23.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.06.19 23.28	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.06.19 23.28	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.06.19 23.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	04.06.19 23.28	
o-Terphenyl	84-15-1	86	%	70-135	04.06.19 23.28	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-013	Date Collected:	03.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.09.19 09.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.09.19 09.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.09.19 09.02	
4-Bromofluorobenzene	460-00-4	115	%	70-130	04.09.19 09.02	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id: **PH07A** Matrix: Soil Date Received:04.02.19 12.04

Lab Sample Id: 619719-014 Date Collected: 03.29.19 00.00

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 04.04.19 16.00 Basis: Wet Weight

Seq Number: 3084888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**368**	24.9	mg/kg	04.06.19 22.19		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 04.06.19 08.00 Basis: Wet Weight

Seq Number: 3084907

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 23.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 23.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 23.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 23.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.06.19 23.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.06.19 23.48	
o-Terphenyl	84-15-1	91	%	70-135	04.06.19 23.48	

Certificate of Analytical Results 619719

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	04.02.19 12.04
Lab Sample Id:	619719-014	Date Collected:	03.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.08.19 13.00	Basis:	Wet Weight
Seq Number:	3085025				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.09.19 09.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.09.19 09.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	04.09.19 09.21	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.09.19 09.21	

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 619719

LT Environmental, Inc.

BEU 056

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084865 — Matrix: Solid — Date Prep: 04.04.19
MB Sample Id: 7675143-1-BLK — LCS Sample Id: 7675143-1-BKS — LCSD Sample Id: 7675143-1-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	271	108	226	90	90-110	18	20	mg/kg	04.06.19 16:39	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084888 — Matrix: Solid — Date Prep: 04.04.19
MB Sample Id: 7675144-1-BLK — LCS Sample Id: 7675144-1-BKS — LCSD Sample Id: 7675144-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	251	100	257	103	90-110	2	20	mg/kg	04.06.19 20:57	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084865 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619567-016 — MS Sample Id: 619567-016 S — MSD Sample Id: 619567-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.1	252	295	109	283	105	90-110	4	20	mg/kg	04.06.19 16:59	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084865 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619598-013 — MS Sample Id: 619598-013 S — MSD Sample Id: 619598-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.0	250	233	82	302	110	90-110	26	20	mg/kg	04.06.19 18:41	XF

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3084888 — Matrix: Soil — Date Prep: 04.04.19
Parent Sample Id: 619719-010 — MS Sample Id: 619719-010 S — MSD Sample Id: 619719-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	156	250	310	62	419	105	90-110	30	20	mg/kg	04.06.19 21:18	XF

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 619719

LT Environmental, Inc.

BEU 056

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3084888 Matrix: Soil Date Prep: 04.04.19
Parent Sample Id: 619719-011 MS Sample Id: 619719-011 S MSD Sample Id: 619719-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	479	249	605	51	700	89	90-110	15	20	mg/kg	04.06.19 23:00	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084907 Matrix: Solid Date Prep: 04.06.19
MB Sample Id: 7675254-1-BLK LCS Sample Id: 7675254-1-BKS LCSD Sample Id: 7675254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	945	95	996	100	70-135	5	20	mg/kg	04.06.19 15:14	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1070	107	70-135	6	20	mg/kg	04.06.19 15:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		122		128		70-135	%	04.06.19 15:14
o-Terphenyl	97		118		124		70-135	%	04.06.19 15:14

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084907 Matrix: Soil Date Prep: 04.06.19
Parent Sample Id: 620071-001 MS Sample Id: 620071-001 S MSD Sample Id: 620071-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	927	93	943	94	70-135	2	20	mg/kg	04.06.19 16:17	
Diesel Range Organics (DRO)	<8.12	999	984	98	1020	102	70-135	4	20	mg/kg	04.06.19 16:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		119		70-135	%	04.06.19 16:17
o-Terphenyl	112		114		70-135	%	04.06.19 16:17

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

QC Summary 619719

LT Environmental, Inc.

BEU 056

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3084923 — Matrix: Solid — Date Prep: 04.08.19
MB Sample Id: 7675279-1-BLK — LCS Sample Id: 7675279-1-BKS — LCSD Sample Id: 7675279-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.0933	94	0.0933	93	70-130	0	35	mg/kg	04.08.19 22:20	
Toluene	<0.000454	0.0996	0.0991	99	0.100	100	70-130	1	35	mg/kg	04.08.19 22:20	
Ethylbenzene	<0.000563	0.0996	0.0934	94	0.0945	95	70-130	1	35	mg/kg	04.08.19 22:20	
m,p-Xylenes	<0.00101	0.199	0.188	94	0.190	95	70-130	1	35	mg/kg	04.08.19 22:20	
o-Xylene	<0.000343	0.0996	0.0946	95	0.0957	96	70-130	1	35	mg/kg	04.08.19 22:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		97		97		70-130	%	04.08.19 22:20
4-Bromofluorobenzene	87		91		93		70-130	%	04.08.19 22:20

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3085025 — Matrix: Solid — Date Prep: 04.08.19
MB Sample Id: 7675344-1-BLK — LCS Sample Id: 7675344-1-BKS — LCSD Sample Id: 7675344-1-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	0.0899	90	0.0854	85	70-130	5	35	mg/kg	04.09.19 01:30	
Toluene	<0.00200	0.100	0.0919	92	0.0888	88	70-130	3	35	mg/kg	04.09.19 01:30	
Ethylbenzene	<0.00200	0.100	0.0938	94	0.0906	90	70-130	3	35	mg/kg	04.09.19 01:30	
m,p-Xylenes	<0.00102	0.200	0.188	94	0.182	91	70-130	3	35	mg/kg	04.09.19 01:30	
o-Xylene	<0.00200	0.100	0.0969	97	0.0944	93	70-130	3	35	mg/kg	04.09.19 01:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		97		96		70-130	%	04.09.19 01:30
4-Bromofluorobenzene	106		102		103		70-130	%	04.09.19 01:30

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3084923 — Matrix: Soil — Date Prep: 04.08.19
Parent Sample Id: 619719-001 — MS Sample Id: 619719-001 S — MSD Sample Id: 619719-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.0597	59	0.0765	77	70-130	25	35	mg/kg	04.08.19 22:58	X
Toluene	<0.000458	0.101	0.0615	61	0.0799	80	70-130	26	35	mg/kg	04.08.19 22:58	X
Ethylbenzene	<0.000568	0.101	0.0552	55	0.0729	73	70-130	28	35	mg/kg	04.08.19 22:58	X
m,p-Xylenes	<0.00102	0.201	0.110	55	0.145	73	70-130	27	35	mg/kg	04.08.19 22:58	X
o-Xylene	0.000399	0.101	0.0562	55	0.0742	74	70-130	28	35	mg/kg	04.08.19 22:58	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	04.08.19 22:58
4-Bromofluorobenzene	100		102		70-130	%	04.08.19 22:58

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

QC Summary 619719

LT Environmental, Inc.

BEU 056

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

Seq Number: 3085025 Matrix: Soil Date Prep: 04.08.19

Parent Sample Id: 620072-004 MS Sample Id: 620072-004 S MSD Sample Id: 620072-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0770	77	0.0740	75	70-130	4	35	mg/kg	04.09.19 02:08	
Toluene	<0.000457	0.100	0.0782	78	0.0754	76	70-130	4	35	mg/kg	04.09.19 02:08	
Ethylbenzene	<0.000567	0.100	0.0779	78	0.0749	76	70-130	4	35	mg/kg	04.09.19 02:08	
m,p-Xylenes	<0.00102	0.201	0.157	78	0.150	76	70-130	5	35	mg/kg	04.09.19 02:08	
o-Xylene	<0.000346	0.100	0.0807	81	0.0767	77	70-130	5	35	mg/kg	04.09.19 02:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		70-130	%	04.09.19 02:08
4-Bromofluorobenzene	104		105		70-130	%	04.09.19 02:08

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

Chain of Custody

Work Order No: 19719

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

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

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 056	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4126	Rush:	
Sampler's Name:	Robert M.	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.5 | 0.4	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
PH01	S	03/25/19	1350	10'	1	X	X	X	discrete
PH01A			1530	19'	1	X	X	X	
PH02			0910	3'		X	X	X	
PH02A			0950	10'		X	X	X	
PH03			1220	4'		X	X	X	
PH03A			1250	9.5'		X	X	X	
PH04		03/27/19	1600	5'		X	X	X	
PH04A		03/28/19	0915	8.5'		X	X	X	
PH05		03/27/19	1049	3'		X	X	X	
PH05A		03/27/19	1530	11'		X	X	X	

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert Mayfield		15:46 3/29/19			
2				Taylor Kay		
3						
4						
5						
6						4/2/19 1145

Chain of Custody

Work Order No: 1e19719

XENCO LABORATORIES

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

www.xenco.com Page 2 of 2

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

Work Order Comments

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

Project Name:	BEV 056	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4126	Rush:	
Sampler's Name:	Robert M.	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5	Thermometer ID:		
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH06	S	03/29/19			1	X	X	X
PH06A						X	X	X
PH07						X	X	X
PH07A						X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

discrete

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert M		15:49 3/29/19	2			
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/02/2019 12:04:11 PM

Work Order #: 619719

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/02/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/03/2019

Kalei Stout

Analytical Report 644674

for

LT Environmental, Inc.

Project Manager: Dan Moir

BEU 056

012917059

05-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

05-DEC-19

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

Reference: XENCO Report No(s): **644674**
BEU 056
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 644674. 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. 644674 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 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW04	S	11-27-19 09:15	0 - 4 ft	644674-001
SW03	S	11-27-19 09:00	0 - 4 ft	644674-002
SW02	S	11-27-19 08:50	0 - 4 ft	644674-003
SW05	S	11-27-19 09:30	0 - 4 ft	644674-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 056

Project ID: *012917059*
Work Order Number(s): *644674*

Report Date: *05-DEC-19*
Date Received: *11/27/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109278 BTEX by EPA 8021B

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

Certificate of Analysis Summary 644674

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: 012917059
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Nov-27-19 11:00 am
Report Date: 05-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644674-001		644674-002		644674-003		644674-004					
	Field Id:	SW04		SW03		SW02		SW05					
	Depth:	0-4 ft		0-4 ft		0-4 ft		0-4 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Nov-27-19 09:15		Nov-27-19 09:00		Nov-27-19 08:50		Nov-27-19 09:30					
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15					
	Analyzed:	Dec-03-19 14:43		Dec-03-19 15:03		Dec-03-19 15:23		Dec-03-19 15:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
Toluene		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399				
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
Total BTEX		<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200				
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15					
	Analyzed:	Dec-03-19 21:43		Dec-03-19 21:48		Dec-03-19 21:54		Dec-03-19 22:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1120	5.01	1590	24.9	1150	5.01	4880	25.2				
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00					
	Analyzed:	Dec-03-19 18:18		Dec-03-19 19:21		Dec-03-19 19:43		Dec-03-19 20:04					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0				
Total GRO-DRO		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0				
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-001	Date Collected:	11.27.19 09.15	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1120**	5.01	mg/kg	12.03.19 21.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 18.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 18.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 18.18	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 18.18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 18.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.03.19 18.18	
o-Terphenyl	84-15-1	98	%	70-135	12.03.19 18.18	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-001	Date Collected:	11.27.19 09.15	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.03.19 14.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.03.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.03.19 14.43	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.03.19 14.43	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-002	Date Collected:	11.27.19 09.00	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1590**	24.9	mg/kg	12.03.19 21.48		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 19.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.19 19.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.19 19.21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.03.19 19.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.03.19 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.03.19 19.21	
o-Terphenyl	84-15-1	100	%	70-135	12.03.19 19.21	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-002	Date Collected:	11.27.19 09.00	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.03.19 15.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.03.19 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.03.19 15.03	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.03.19 15.03	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-003	Date Collected:	11.27.19 08.50	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1150**	5.01	mg/kg	12.03.19 21.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 19.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 19.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 19.43	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 19.43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.03.19 19.43	
o-Terphenyl	84-15-1	94	%	70-135	12.03.19 19.43	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-003	Date Collected:	11.27.19 08.50	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.03.19 15.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.03.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.03.19 15.23	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.03.19 15.23	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-004	Date Collected:	11.27.19 09.30	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4880**	25.2	mg/kg	12.03.19 22.10		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 20.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 20.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 20.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 20.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.03.19 20.04	
o-Terphenyl	84-15-1	96	%	70-135	12.03.19 20.04	

Certificate of Analytical Results 644674

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	11.27.19 11.00
Lab Sample Id:	644674-004	Date Collected:	11.27.19 09.30	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.03.19 15.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 15.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.03.19 15.43	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.03.19 15.43	

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 644674

LT Environmental, Inc.

BEU 056

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691542-1-BLK — LCS Sample Id: 7691542-1-BKS — LCSD Sample Id: 7691542-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	242	97	247	99	90-110	2	20	mg/kg	12.03.19 21:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644675-001 — MS Sample Id: 644675-001 S — MSD Sample Id: 644675-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	325	252	576	100	556	92	90-110	4	20	mg/kg	12.03.19 22:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644784-016 — MS Sample Id: 644784-016 S — MSD Sample Id: 644784-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	776	201	976	100	975	99	90-110	0	20	mg/kg	12.03.19 21:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109295 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691532-1-BLK — LCS Sample Id: 7691532-1-BKS — LCSD Sample Id: 7691532-1-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	1020	102	997	100	70-135	2	20	mg/kg	12.03.19 17:37	
Diesel Range Organics (DRO)	<15.0	1000	978	98	954	95	70-135	2	20	mg/kg	12.03.19 17:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		106		103		70-135	%	12.03.19 17:37
o-Terphenyl	108		101		100		70-135	%	12.03.19 17:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109295 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691532-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.03.19 17:16	

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

QC Summary 644674

LT Environmental, Inc.

BEU 056

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3109295 | Matrix: Soil | Date Prep: 12.03.19
Parent Sample Id: 644674-001 | MS Sample Id: 644674-001 S | MSD Sample Id: 644674-001 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	997	1010	101	930	93	70-135	8	20	mg/kg	12.03.19 18:39	
Diesel Range Organics (DRO)	16.0	997	1020	101	914	90	70-135	11	20	mg/kg	12.03.19 18:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		97		70-135	%	12.03.19 18:39
o-Terphenyl	104		94		70-135	%	12.03.19 18:39

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3109278 | Matrix: Solid | Date Prep: 12.03.19
MB Sample Id: 7691519-1-BLK | LCS Sample Id: 7691519-1-BKS | LCSD Sample Id: 7691519-1-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	0.101	101	70-130	6	35	mg/kg	12.03.19 10:48	
Toluene	<0.00200	0.100	0.100	100	0.0967	97	70-130	3	35	mg/kg	12.03.19 10:48	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0999	100	70-130	3	35	mg/kg	12.03.19 10:48	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.204	102	70-130	3	35	mg/kg	12.03.19 10:48	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	70-130	2	35	mg/kg	12.03.19 10:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		109		108		70-130	%	12.03.19 10:48
4-Bromofluorobenzene	97		105		107		70-130	%	12.03.19 10:48

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3109278 | Matrix: Soil | Date Prep: 12.03.19
Parent Sample Id: 644674-001 | MS Sample Id: 644674-001 S | MSD Sample Id: 644674-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0986	98	0.0942	93	70-130	5	35	mg/kg	12.03.19 13:23	
Toluene	<0.00201	0.101	0.0987	98	0.0919	91	70-130	7	35	mg/kg	12.03.19 13:23	
Ethylbenzene	<0.00201	0.101	0.105	104	0.0964	95	70-130	9	35	mg/kg	12.03.19 13:23	
m,p-Xylenes	<0.00402	0.201	0.214	106	0.197	98	70-130	8	35	mg/kg	12.03.19 13:23	
o-Xylene	<0.00201	0.101	0.106	105	0.0969	96	70-130	9	35	mg/kg	12.03.19 13:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.03.19 13:23
4-Bromofluorobenzene	112		108		70-130	%	12.03.19 13:23

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

Chain of Custody

Work Order No: 644674

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

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 056	Turn Around	
Project Number:	012917059	Routine	☒
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.4	Thermometer ID	T-NM-007
Received Intact:	Yes No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes No N/A	Total Containers:	4
Sample Custody Seals:	Yes No N/A		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW04	S	11/27/19	0915	0'-4'	1	X	X	X	composite
SW03	↓	↓	0900	↓	↓	↓	↓	↓	↓
SW02			0850						
SW05			0930						

ANALYSIS REQUEST

Work Order Notes

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

Elizabeth Naka

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	Elizabeth Naka		11/27/19 11:00	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **53281**

Date/Time: 12/02/19 11:44
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 777125912748

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
644674-001	S	SW04	11/27/19 09:15	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/11/19	JKR	GRO-DRO PHCC10C28 PI	
644674-001	S	SW04	11/27/19 09:15	SW8021B	BTEX by EPA 8021B	12/05/19	12/11/19	JKR	BZ BZME EBZ XYLENES	
644674-001	S	SW04	11/27/19 09:15	E300_CL	Chloride by EPA 300	12/05/19	05/25/20	JKR	CL	
644674-002	S	SW03	11/27/19 09:00	SW8021B	BTEX by EPA 8021B	12/05/19	12/11/19	JKR	BZ BZME EBZ XYLENES	
644674-002	S	SW03	11/27/19 09:00	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/11/19	JKR	GRO-DRO PHCC10C28 PI	
644674-002	S	SW03	11/27/19 09:00	E300_CL	Chloride by EPA 300	12/05/19	05/25/20	JKR	CL	
644674-003	S	SW02	11/27/19 08:50	SW8021B	BTEX by EPA 8021B	12/05/19	12/11/19	JKR	BZ BZME EBZ XYLENES	
644674-003	S	SW02	11/27/19 08:50	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/11/19	JKR	GRO-DRO PHCC10C28 PI	
644674-003	S	SW02	11/27/19 08:50	E300_CL	Chloride by EPA 300	12/05/19	05/25/20	JKR	CL	
644674-004	S	SW05	11/27/19 09:30	SW8021B	BTEX by EPA 8021B	12/05/19	12/11/19	JKR	BZ BZME EBZ XYLENES	
644674-004	S	SW05	11/27/19 09:30	E300_CL	Chloride by EPA 300	12/05/19	05/25/20	JKR	CL	
644674-004	S	SW05	11/27/19 09:30	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/11/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 12/02/2019

Received By: Brianna Teel

Date Received: 12/03/2019 11:12

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 53281

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

Sent By: Elizabeth McClellan **Date Sent:** 12/02/2019 11:44 AM

Received By: Brianna Teel **Date Received:** 12/03/2019 11:12 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 12/03/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/27/2019 11:00:00 AM

Work Order #: 644674

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)?	**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: 12/02/2019

Checklist reviewed by: Jessica Kramer Date: 12/02/2019

Jessica Kramer

Analytical Report 644675

for

LT Environmental, Inc.

Project Manager: Dan Moir

BEU 056

012917059

05-DEC-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

05-DEC-19

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

Reference: XENCO Report No(s): **644675**
BEU 056
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 644675. 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. 644675 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 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS05	S	11-25-19 09:50	1 - 2 ft	644675-001
FS06	S	11-25-19 10:25	2 - 4 ft	644675-002
FS07	S	11-25-19 10:40	4 ft	644675-003
FS08	S	11-25-19 11:00	4 ft	644675-004
FS09	S	11-25-19 11:05	4 ft	644675-005
FS10	S	11-25-19 11:25	4 ft	644675-006
FS11	S	11-25-19 11:30	4 ft	644675-007

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 056

Project ID: *012917059*
Work Order Number(s): *644675*

Report Date: *05-DEC-19*
Date Received: *11/27/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109278 BTEX by EPA 8021B

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

Certificate of Analysis Summary 644675

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: 012917059
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Nov-27-19 09:50 am
Report Date: 05-DEC-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	644675-001		644675-002		644675-003		644675-004		644675-005		644675-006	
	Field Id:	FS05		FS06		FS07		FS08		FS09		FS10	
	Depth:	1-2 ft		2-4 ft		4- ft		4- ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-25-19 09:50		Nov-25-19 10:25		Nov-25-19 10:40		Nov-25-19 11:00		Nov-25-19 11:05		Nov-25-19 11:25	
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15		Dec-03-19 11:15	
	Analyzed:	Dec-03-19 16:03		Dec-03-19 16:23		Dec-03-19 16:43		Dec-03-19 17:04		Dec-03-19 17:24		Dec-03-19 17:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00400	0.00400	<0.00397	0.00397	<0.00397	0.00397	<0.00397	0.00397	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15		Dec-03-19 13:15	
	Analyzed:	Dec-03-19 22:36		Dec-03-19 22:15		Dec-03-19 22:20		Dec-03-19 22:26		Dec-03-19 22:31		Dec-03-19 22:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		325	5.04	448	4.96	1110	5.02	1500	24.8	3880	24.8	334	5.01
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00		Dec-03-19 13:00	
	Analyzed:	Dec-03-19 20:25		Dec-03-19 20:46		Dec-03-19 21:07		Dec-03-19 21:28		Dec-03-19 21:49		Dec-03-19 22:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<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	<50.0	50.0	<49.9	49.9	<49.8	49.8
Total GRO-DRO		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8
Total TPH		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 644675

LT Environmental, Inc., Arvada, CO

Project Name: BEU 056

Project Id: 012917059
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Nov-27-19 09:50 am
Report Date: 05-DEC-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	644675-007					
	Field Id:	FS11					
	Depth:	4- ft					
	Matrix:	SOIL					
	Sampled:	Nov-25-19 11:30					
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Dec-03-19 11:15					
	Analyzed:	Dec-03-19 19:02					
	Units/RL:	mg/kg	RL				
Benzene		<0.00201	0.00201				
Toluene		<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402				
o-Xylene		<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201				
Total BTEX		<0.00201	0.00201				
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Dec-03-19 13:15					
	Analyzed:	Dec-03-19 22:58					
	Units/RL:	mg/kg	RL				
Chloride		70.8	5.05				
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Dec-03-19 13:00					
	Analyzed:	Dec-03-19 22:52					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0				
Total GRO-DRO		<50.0	50.0				
Total TPH		<50.0	50.0				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-001	Date Collected:	11.25.19 09.50	Sample Depth:	1 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**325**	5.04	mg/kg	12.03.19 22.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 20.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.19 20.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.19 20.25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.03.19 20.25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.03.19 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.03.19 20.25	
o-Terphenyl	84-15-1	98	%	70-135	12.03.19 20.25	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-001	Date Collected:	11.25.19 09.50	Sample Depth:	1 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.03.19 16.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.03.19 16.03	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.03.19 16.03	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-002	Date Collected:	11.25.19 10.25	Sample Depth:	2 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**448**	4.96	mg/kg	12.03.19 22.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.19 20.46	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.03.19 20.46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.03.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.03.19 20.46	
o-Terphenyl	84-15-1	98	%	70-135	12.03.19 20.46	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-002	Date Collected:	11.25.19 10.25	Sample Depth:	2 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.03.19 16.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.03.19 16.23	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.03.19 16.23	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-003	Date Collected:	11.25.19 10.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1110**	5.02	mg/kg	12.03.19 22.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 21.07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 21.07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.03.19 21.07	
o-Terphenyl	84-15-1	98	%	70-135	12.03.19 21.07	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-003	Date Collected:	11.25.19 10.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.19 16.43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.03.19 16.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.03.19 16.43	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.03.19 16.43	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-004	Date Collected:	11.25.19 11.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1500**	24.8	mg/kg	12.03.19 22.26		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 21.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 21.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 21.28	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 21.28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 21.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.03.19 21.28	
o-Terphenyl	84-15-1	99	%	70-135	12.03.19 21.28	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-004	Date Collected:	11.25.19 11.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.19 17.04	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.03.19 17.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.03.19 17.04	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.03.19 17.04	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-005	Date Collected:	11.25.19 11.05	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3880**	24.8	mg/kg	12.03.19 22.31		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 21.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.19 21.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.19 21.49	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.03.19 21.49	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.03.19 21.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.03.19 21.49	
o-Terphenyl	84-15-1	96	%	70-135	12.03.19 21.49	

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LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-005	Date Collected:	11.25.19 11.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.19 17.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.03.19 17.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.03.19 17.24	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.03.19 17.24	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-006	Date Collected:	11.25.19 11.25	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**334**	5.01	mg/kg	12.03.19 22.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 22.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.03.19 22.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.03.19 22.10	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.03.19 22.10	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.03.19 22.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.03.19 22.10	
o-Terphenyl	84-15-1	96	%	70-135	12.03.19 22.10	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-006	Date Collected:	11.25.19 11.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.03.19 17.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.03.19 17.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.03.19 17.44	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.03.19 17.44	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-007	Date Collected:	11.25.19 11.30	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.03.19 13.15	Basis:	Wet Weight
Seq Number:	3109305			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.8**	5.05	mg/kg	12.03.19 22.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	12.03.19 13.00	Basis:	Wet Weight
Seq Number:	3109295			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	12.03.19 22.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.19 22.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.19 22.52	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.03.19 22.52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.03.19 22.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.03.19 22.52	
o-Terphenyl	84-15-1	88	%	70-135	12.03.19 22.52	

Certificate of Analytical Results 644675

LT Environmental, Inc., Arvada, CO

BEU 056

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	11.27.19 09.50
Lab Sample Id:	644675-007	Date Collected:	11.25.19 11.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	12.03.19 11.15	Basis:	Wet Weight
Seq Number:	3109278			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.03.19 19.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.03.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.03.19 19.02	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.03.19 19.02	

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 644675

LT Environmental, Inc.

BEU 056

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691542-1-BLK — LCS Sample Id: 7691542-1-BKS — LCSD Sample Id: 7691542-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	242	97	247	99	90-110	2	20	mg/kg	12.03.19 21:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644675-001 — MS Sample Id: 644675-001 S — MSD Sample Id: 644675-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	325	252	576	100	556	92	90-110	4	20	mg/kg	12.03.19 22:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109305 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644784-016 — MS Sample Id: 644784-016 S — MSD Sample Id: 644784-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	776	201	976	100	975	99	90-110	0	20	mg/kg	12.03.19 21:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109295 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691532-1-BLK — LCS Sample Id: 7691532-1-BKS — LCSD Sample Id: 7691532-1-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	1020	102	997	100	70-135	2	20	mg/kg	12.03.19 17:37	
Diesel Range Organics (DRO)	<15.0	1000	978	98	954	95	70-135	2	20	mg/kg	12.03.19 17:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		106		103		70-135	%	12.03.19 17:37
o-Terphenyl	108		101		100		70-135	%	12.03.19 17:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109295 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691532-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.03.19 17:16	

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

QC Summary 644675

LT Environmental, Inc.

BEU 056

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109295 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644674-001 — MS Sample Id: 644674-001 S — MSD Sample Id: 644674-001 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	997	1010	101	930	93	70-135	8	20	mg/kg	12.03.19 18:39	
Diesel Range Organics (DRO)	16.0	997	1020	101	914	90	70-135	11	20	mg/kg	12.03.19 18:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		97		70-135	%	12.03.19 18:39
o-Terphenyl	104		94		70-135	%	12.03.19 18:39

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109278 — Matrix: Solid — Date Prep: 12.03.19
MB Sample Id: 7691519-1-BLK — LCS Sample Id: 7691519-1-BKS — LCSD Sample Id: 7691519-1-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	0.101	101	70-130	6	35	mg/kg	12.03.19 10:48	
Toluene	<0.00200	0.100	0.100	100	0.0967	97	70-130	3	35	mg/kg	12.03.19 10:48	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0999	100	70-130	3	35	mg/kg	12.03.19 10:48	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.204	102	70-130	3	35	mg/kg	12.03.19 10:48	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	70-130	2	35	mg/kg	12.03.19 10:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		109		108		70-130	%	12.03.19 10:48
4-Bromofluorobenzene	97		105		107		70-130	%	12.03.19 10:48

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109278 — Matrix: Soil — Date Prep: 12.03.19
Parent Sample Id: 644674-001 — MS Sample Id: 644674-001 S — MSD Sample Id: 644674-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0986	98	0.0942	93	70-130	5	35	mg/kg	12.03.19 13:23	
Toluene	<0.00201	0.101	0.0987	98	0.0919	91	70-130	7	35	mg/kg	12.03.19 13:23	
Ethylbenzene	<0.00201	0.101	0.105	104	0.0964	95	70-130	9	35	mg/kg	12.03.19 13:23	
m,p-Xylenes	<0.00402	0.201	0.214	106	0.197	98	70-130	8	35	mg/kg	12.03.19 13:23	
o-Xylene	<0.00201	0.101	0.106	105	0.0969	96	70-130	9	35	mg/kg	12.03.19 13:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		107		70-130	%	12.03.19 13:23
4-Bromofluorobenzene	112		108		70-130	%	12.03.19 13:23

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 644675

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 056	Turn Around	
Project Number:	012917059	Routine	X
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	0.6	Thermometer ID	T-NM-007
Received Intact:	(Yes) No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes (No) N/A	Total Containers:	7
Sample Custody Seals:	Yes (No) N/A		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS05	S	11/25/19	0950	1'-2'	1	X	X	X
FS06			1025	2'-4'				
FS07			1040	4'				
FS08			1100					
FS09			1105					
FS10			1125					
FS11	↓	↓	1130	↓	↓	↓	↓	↓

Elizabeth Naka

Work Order Notes

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

Sample Comments

Composite

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
Elizabeth Naka		11/27/19 9:20	2		11/27/19 9:50
			4		
			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **53280**

Date/Time: 12/02/19 11:35
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 777125912748

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
644675-001	S	FS05	11/25/19 09:50	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-001	S	FS05	11/25/19 09:50	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-001	S	FS05	11/25/19 09:50	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-002	S	FS06	11/25/19 10:25	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-002	S	FS06	11/25/19 10:25	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-002	S	FS06	11/25/19 10:25	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-003	S	FS07	11/25/19 10:40	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-003	S	FS07	11/25/19 10:40	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-003	S	FS07	11/25/19 10:40	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-004	S	FS08	11/25/19 11:00	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-004	S	FS08	11/25/19 11:00	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-004	S	FS08	11/25/19 11:00	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-005	S	FS09	11/25/19 11:05	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-005	S	FS09	11/25/19 11:05	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-005	S	FS09	11/25/19 11:05	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-006	S	FS10	11/25/19 11:25	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-006	S	FS10	11/25/19 11:25	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-006	S	FS10	11/25/19 11:25	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	
644675-007	S	FS11	11/25/19 11:30	E300_CL	Chloride by EPA 300	12/05/19	05/23/20	JKR	CL	
644675-007	S	FS11	11/25/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	12/05/19	12/09/19	JKR	GRO-DRO PHCC10C28 PI	
644675-007	S	FS11	11/25/19 11:30	SW8021B	BTEX by EPA 8021B	12/05/19	12/09/19	JKR	BZ BZME EBZ XYLENES	

Inter-Office Shipment

IOS Number **53280**

Date/Time: 12/02/19 11:35
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 777125912748

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

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 12/02/2019

Received By: Brianna Teel

Date Received: 12/03/2019 11:12

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 53280

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

Sent By: Elizabeth McClellan **Date Sent:** 12/02/2019 11:35 AM

Received By: Brianna Teel **Date Received:** 12/03/2019 11:12 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 12/03/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/27/2019 09:50:00 AM

Work Order #: 644675

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**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: 12/02/2019

Checklist reviewed by: Jessica Kramer Date: 12/02/2019

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 188582

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 188582
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Site will need to meet the requirements of 19.15.29.13 NMAC at time of plugging and abandonment.	2/21/2023