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

February 21, 2020

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

RE: Closure Request
Avalon Delaware Unit Central Tank Battery
Remediation Permit Number 2RP-4778
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 Avalon Delaware Unit Central Tank Battery (Site) in Unit G, Section 31, Township 20 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 crude oil and 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 May 19, 2018, a dump valve on the separator failed to open, causing fluid to release from the flare line and ignite a small fire. The fire extinguished itself. Approximately 7 barrels (bbls) of produced water and 1 bbl of crude oil were released as overspray, affecting the well pad west of the flare and small area east of the flare. A vacuum truck recovered approximately 3.5 bbls of produced water and 0.5 bbls of crude oil. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on May 30, 2018, and was assigned Remediation Permit (RP) Number 2RP-4778 (Attachment 1). Based on the site assessment activities and results of the soil sampling events, XTO is requesting no further action for this release event.

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 NM OSE well 00851, located approximately 780 feet east of the Site. The water well has a depth to groundwater of 115 feet and a total depth of 255 feet. Ground surface elevation at the water well location is 3,251 feet above mean sea level (AMSL), which is approximately 4 feet higher in elevation than the Site. NM OSE water well 00851 was located less than 1,000 feet from the Site; therefore, a water sample (WS01) was collected from the well on October 1, 2019, for analysis of total dissolved solids (TDS) by Standard Method (SM) 2540C. Laboratory analytical results for water sample WS01, indicated a TDS concentration of 11,600 milligrams per liter (mg/L). Based on a TDS concentration greater than 10,000 mg/L, the water well is not considered a fresh water well. The laboratory analytical report is included in Attachment 4.

The closest continuously flowing water or significant watercourse to the Site is a seasonal riverine located approximately 660 feet north 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 May 23, 2018, LTE personnel inspected the Site to evaluate the release extent. Surficial staining was observed in release area. An LTE scientist collected seven preliminary soil samples (SS01 through SS07) within 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. On May 7, 2019, LTE personnel returned to the site to collect additional soil samples from three of the preliminary soil sample locations to assess the vertical extent of impacted soil. Soil samples SS03A/SS03B, SS04A/SS04B/SS04C/SS04D, and SS05A/SS05B were collected from depths ranging from 1 foot to 4 feet bgs at the SS03 through SS05 preliminary soil sample locations.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-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 August and September 2018, LTE personnel returned to the Site to oversee excavation activities 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. The excavation was completed to depths ranging from 6 feet to 12 feet bgs. Excavation of the impacted soil was conducted prior to the Compliance Agreement and prior to the implementation of the August 14, 2018, NMOCD modification to 19.15.29. Following removal of impacted soil, excavation confirmation samples were collected as discrete samples instead of composite samples. The area of impacted soil could be visually discerned; therefore, LTE applied a judgmental sampling protocol, selecting sample locations based on visual observation to represent the floor and sidewalls of the excavation. The sampling protocol complied with Guidance on Choosing a Sampling Design for Environmental Data Collection for Use in Developing a Quality Assurance Project Plan, EPA QA/G-5S, December 2002. Following removal of impacted soil, soil samples SW01 through SW13 were collected from the sidewalls of the excavation from depths ranging from 3 feet to 8 feet bgs. Composite soil samples FS01 through FS06 were collected from the floor of the excavation from depths ranging from 6 feet to 12 feet bgs. The excavation extent and excavation soil sample locations are depicted on Figure 3.

The 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 2,000 square feet in area and was completed to depths ranging from 6 feet to 12 feet bgs. A total of approximately 600 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 and delineation soil samples SS01, SS02, SS03/SS03A/SS03B, SS04/SS04A/SS04B/SS04C/SS04D, SS05/SS05A/SS05B, and SS07. Laboratory analytical results indicated that GRO/DRO and TPH concentrations exceeded the Closure Criteria in preliminary soil sample SS06. Based on visible surface staining and laboratory analytical results for the soil samples, excavation of impacted soil was conducted.

Laboratory analytical results for excavation soil samples SW01 through SW13 and FS01 through FS06 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 release area to address impacts to soil resulting from the May 19, 2018, overspray release of crude oil and 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 within the release area to confirm the lateral and vertical extent of 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-4778. 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 and Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-4778)
Attachment 2	Lithologic / Soil Sample Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES

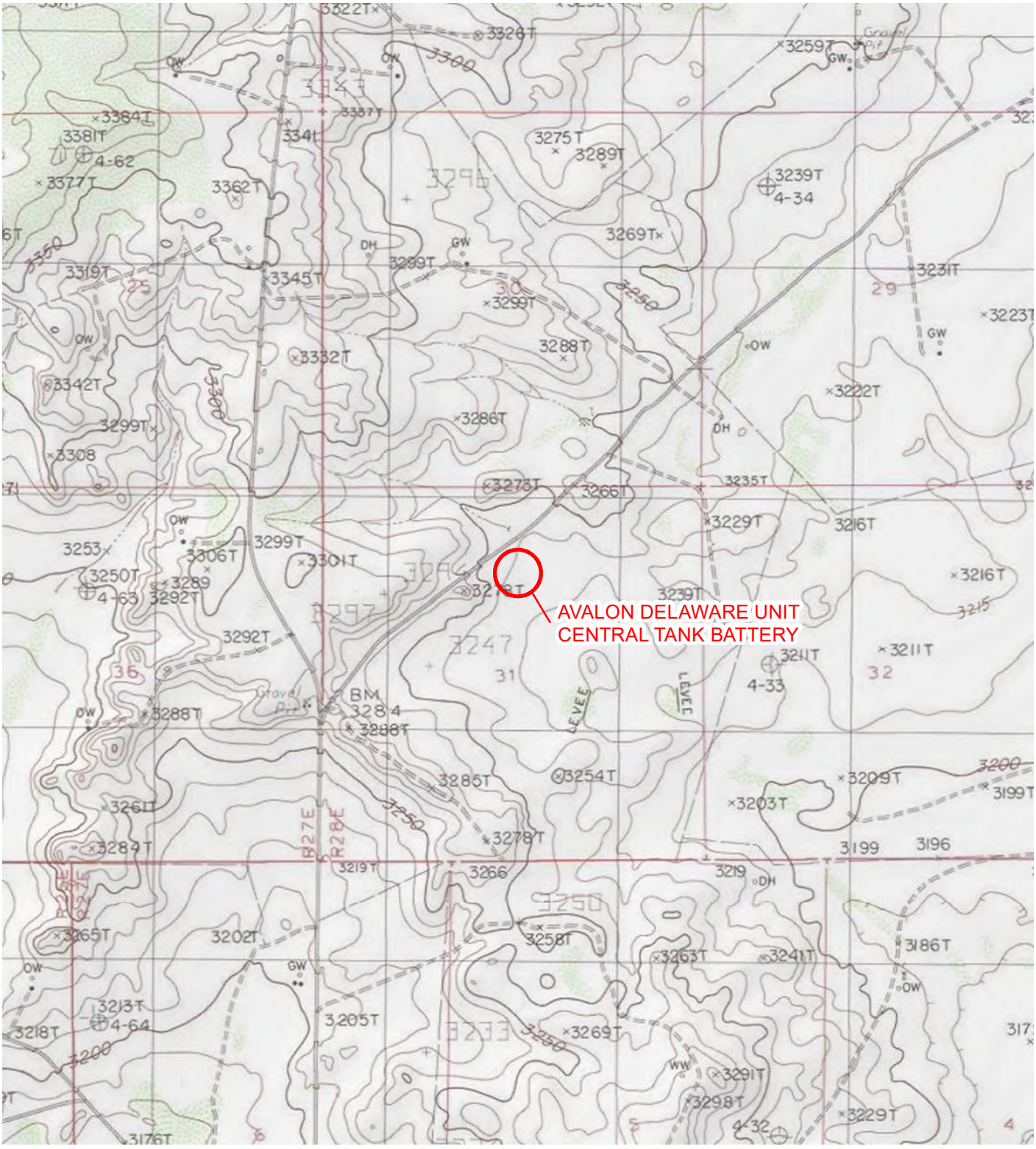

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT
NUMBER 2RP-4778

FIGURE 1
SITE LOCATION MAP
AVALON DELAWARE UNIT CENTRAL TANK BATTERY
UNIT G SEC 31 T20S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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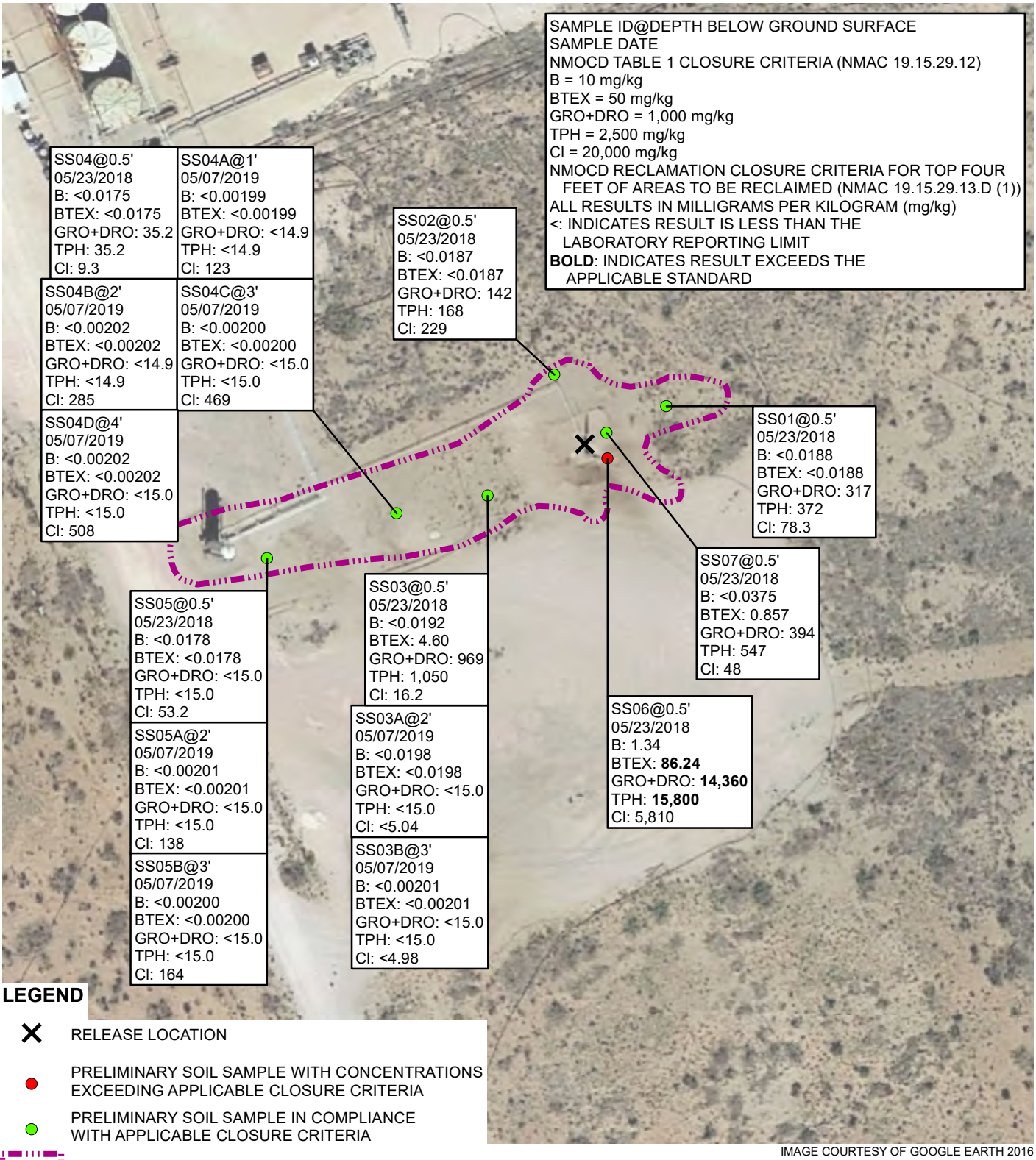

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-4778

FIGURE 2
PRELIMINARY AND DELINEATION
SOIL SAMPLE LOCATIONS
AVALON DELAWARE UNIT CENTRAL TANK BATTERY
UNIT G SEC 31 T20S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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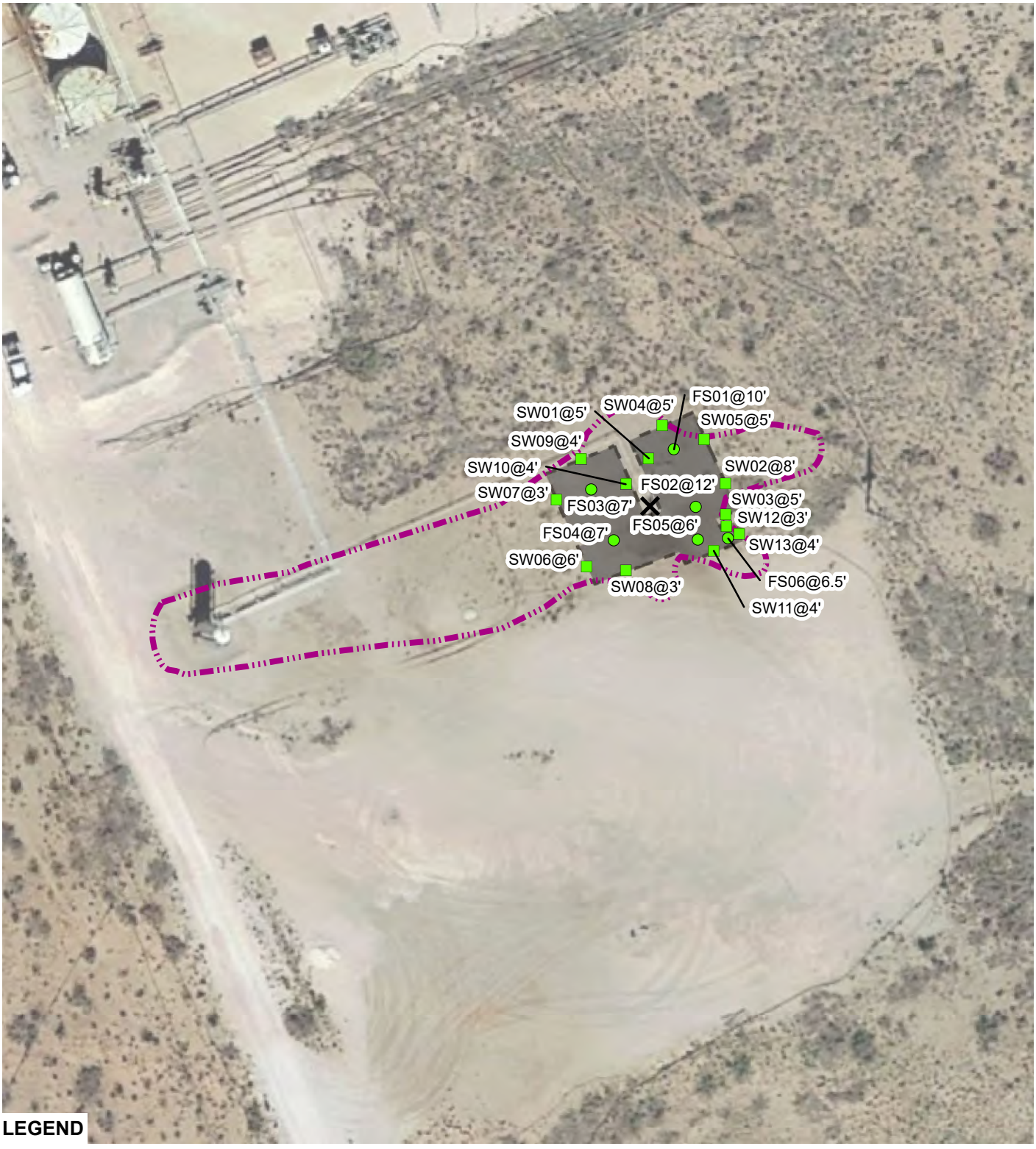

LEGEND

- EXCAVATION SIDEWALL SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- EXCAVATION FLOOR SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE LOCATION
- APPROXIMATE RELEASE EXTENT
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE
NOTE: REMEDIATION PERMIT NUMBER 2RP-4778

IMAGE COURTESY OF GOOGLE EARTH 2016

0 50 100
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
AVALON DELAWARE UNIT CENTRAL TANK BATTERY
UNIT G SEC 31 T20S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

AVALON DELAWARE UNIT CENTRAL TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4778
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)
SS01	0.5	05/23/2018	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188	<15.0	317	55.1	317	372	78.3
SS02	0.5	05/23/2018	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<15.0	142	25.7	142	168	229
SS03	0.5	05/23/2018	<0.0192	0.408	0.871	3.32	4.60	141	828	83.1	969	1,050	16.2
SS03A	2	05/07/2019	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	<15.0	<15.0	<15.0	<15.0	<15.0	<5.04
SS03B	3	05/07/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<4.98
SS04	0.5	05/23/2018	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<14.9	35.2	<14.9	35.2	35.2	9.30
SS04A	1	05/07/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	123
SS04B	2	05/07/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	285
SS04C	3	05/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	469
SS04D	4	05/07/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	508
SS05	0.5	05/23/2018	<0.0178	<0.0178	<0.0178	<0.0178	<0.0178	<15.0	<15.0	<15.0	<15.0	<15.0	53.2
SS05A	2	05/07/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	138
SS05B	3	05/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	164
SS06	0.5	05/23/2018	1.34	16.5	13.5	54.9	86.2	1,860	12,500	1,450	**14,360**	**15,800**	5,810
SS07	0.5	05/23/2018	<0.0375	<0.0375	<0.0375	0.857	0.857	<15.0	394	153	394	547	48.0
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

TABLE 1
SOIL ANALYTICAL RESULTS

AVALON DELAWARE UNIT CENTRAL TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4778
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)
SW01	5	08/29/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	21.5	<15.0	21.5	21.5	9,990
SW02	8	08/28/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	137
SW03	5	08/28/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	139
SW04	5	08/28/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	391
SW05	5	08/28/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	19.3
SW06	6	08/28/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	<4.98
SW07	3	08/28/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97
SW08	3	08/29/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	41.7	<15.0	41.7	41.7	52.6
SW09	4	08/29/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	15.5	<15.0	15.5	15.5	20.8
SW10	4	08/29/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	536	<14.9	536	536	4,430
SW11	4	09/17/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	569	41.2	569	610	253
SW12	3	09/17/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,270
SW13	4	09/17/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	16.1
FS01	10	08/28/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	181
FS02	12	08/28/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	89.9
FS03	7	08/28/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96
FS04	7	08/28/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	47.7
FS05	6	09/17/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	112	<15.0	112	112	156
FS06	6.5	09/17/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	28.9	<15.0	28.9	28.9	94.3
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-4778)

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

MAY 31 2018

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

DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1815751605

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Kyle Littrell
Address: 3104 E. Greene St., Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Avalon Delaware Unit Central Tank Battery (API for Avalon Delaware Unit 520)	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No: 30-015-28664

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	31	20S	28E	1388	North	2750	West	Eddy

Latitude 32.533746 Longitude -104.217270 NAD83

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 7 bbl produced water, 1 bbl oil	Volume Recovered 3.5 bbl produced water, .5 bbl oil
Source of Release Flare	Date and Hour of Occurrence 5/19/2018, AM	Date and Hour of Discovery 5/19/2018, 8:30 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver (NMOCD), Shelly Tucker and Jim Amos (BLM)	
By Whom? Kyle Littrell	Date and Hour: 5/21/2018, 3:20 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
A dump valve failed to open on the main separator, causing fluid to escape the flare line and resulting in a small fire. The fire extinguished itself. The dump valve was rebuilt, fluid pulled from the lines, and repairs made to the flare.

Describe Area Affected and Cleanup Action Taken.*
The fluid mostly sprayed west from the flare, with a smaller amount of overspray to the east. A vacuum truck was dispatched and recovered 3.5 bbl produced water and .5 bbl oil. An environmental contractor has been retained to assist with remediation efforts.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Kyle Littrell	Signed By Approved by Environmental Specialist:
Title: Environmental Coordinator	Approval Date: 6/5/18 Expiration Date: N/A
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval: See attached Attached ☒
Date: 5/30/2018 Phone: 432-221-7331	

* Attach Additional Sheets If Necessary

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	2RP-4778
Facility ID	
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-4778
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.533746 Longitude W -104.217270
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Avalon Delaware Unit Central Tank Battery	Site Type: Exploration and Production
Date Release Discovered: 5/19/2018	API# *(if applicable):* 30-015-28664

Unit Letter	Section	Township	Range	County
G	31	20S	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): 1	Volume Recovered (bbls): 0.5
☒ Produced Water	Volume Released (bbls): 7	Volume Recovered (bbls): 3.5 (total)
	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 dump valve failed to open on the main separator, causing fluid to escape the flare line and resulting in a small fire.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4778
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was less than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given by Kyle Littrell to Mike Bratcher/Crystal Weaver (NMOCD) and Shelly Tucker/Jim Amos (BLM) on May 21, 2018, at 3:20 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: 2-21-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4778
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4778
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2-21-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAB1815756705
District RP	2RP-4778
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2-21-2020

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: Bradford Billings Date: 09/20/2021

Printed Name: Bradford Billings Title: Envi.Spec.A

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

Compliance · Engineering · Remediation

BH or PH Name: SS03	Date: 05/07/19
Site Name: ADU 157	
RP or Incident Number: 2RP-4778	
LTE Job Number:	
Logged By: Garret Green	Method:
Field Screening: Chloride, PID	Hole Diameter:
	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
1420 D	<180	74	N	SS03		1'	SP	sand, no odor, dry, brown, f.-m.
1425 D	<180	69.8	N	SS03A		2'	SP	SAA (same as above)
1430 D	<180	119.7	N	SS03B		3'	SP	SAA
1435 D	<180	49.6	N	SS03C		4'	SP	SAA

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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BH or PH Name: SS04	Date: 05/07/19
Site Name: APU 157	
RP or Incident Number: 2RP-4778	
LTE Job Number:	
Logged By: Garrett Green	Method:
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
1440 D	180	43.9	N	SS04		1'	SP	Sand, dry, brown, poorly sorted, f.-m. no odor, trace silt
1445 D	448	56.7	N	SS04A		2'	SP	SAA (same as above)
1450 D	582	60.7	N	SS04B		3'	SP	SAA
1455 D	<180	98	N	SS04C		4'	SP	SAA

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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BH or PH Name: SS05	Date: 05/07/19
Site Name: ADU 157	
RP or Incident Number: 2RP-4778	
LTE Job Number:	
Logged By: Garrett Green	Method:
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 4'

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
1505	D	<180	72	N	SS05		1'	SP	Sand, dry, no staining, no odor, f.-m.
1510	D	<180	60.7	N	SS05A		2'	SP	SAA (same as above)
1515	D	<180	60.7	N	SS05B		3'	SP	SAA
1520	D	<180	65.8	N	SS05C		4'	SP	SAA

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: Southwest facing view of release area.

Photograph 2: West facing view of release area.

Photograph 3: West facing view of open excavation.

Photograph 4: South facing view of open excavation.

Avalon Delaware Unit Central Tank Battery
Eddy County, New Mexico
Photographs Taken: May 2018 – September 2018

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 587078

for

LT Environmental, Inc.

Project Manager: Adrian Baker

ADU #157

30-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)

30-MAY-18

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

Reference: XENCO Report No(s): **587078**
ADU #157
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) 587078. 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. 587078 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,

Julian Martinez
Project Manager

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

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

Sample Cross Reference 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05-23-18 11:10	6 In	587078-001
SS02	S	05-23-18 11:21	6 In	587078-002
SS03	S	05-23-18 11:31	6 In	587078-003
SS04	S	05-23-18 11:39	6 In	587078-004
SS05	S	05-23-18 11:47	6 In	587078-005
SS06	S	05-23-18 11:53	6 In	587078-006
SS07	S	05-23-18 12:01	6 In	587078-007

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU #157

Project ID:
Work Order Number(s): *587078*

Report Date: *30-MAY-18*
Date Received: *05/24/2018*

Sample receipt non conformances and comments:

per email, cofirmed with client all samples to be ran for TPH, BTEX, and CL JKR 05/24/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3051550 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 587078-006,587078-003.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3051559 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 587078

LT Environmental, Inc., Arvada, CO

Project Name: ADU #157

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu May-24-18 10:30 am
Report Date: 30-MAY-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	587078-001		587078-002		587078-003		587078-004		587078-005		587078-006	
	Field Id:	SS01		SS02		SS03		SS04		SS05		SS06	
	Depth:	6- In		6- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-23-18 11:10		May-23-18 11:21		May-23-18 11:31		May-23-18 11:39		May-23-18 11:47		May-23-18 11:53	
BTEX by EPA 8021B SUB: T104704219-17-16	***Extracted:***	May-25-18 12:30		May-25-18 12:30		May-25-18 12:30		May-25-18 12:30		May-25-18 12:30		May-25-18 12:30	
	Analyzed:	May-26-18 04:33		May-26-18 08:35		May-26-18 13:36		May-26-18 09:02		May-26-18 09:29		May-27-18 20:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0188	0.0188	<0.0187	0.0187	<0.0192	0.0192	<0.0175	0.0175	<0.0178	0.0178	1.34	0.197
Toluene		<0.0188	0.0188	<0.0187	0.0187	0.408	0.0192	<0.0175	0.0175	<0.0178	0.0178	16.5	0.197
Ethylbenzene		<0.0188	0.0188	<0.0187	0.0187	0.871	0.0192	<0.0175	0.0175	<0.0178	0.0178	13.5	0.197
m,p-Xylenes		<0.0377	0.0377	<0.0373	0.0373	2.16	0.0385	<0.0351	0.0351	<0.0356	0.0356	36.7	0.394
o-Xylene		<0.0188	0.0188	<0.0187	0.0187	1.16	0.0192	<0.0175	0.0175	<0.0178	0.0178	18.2	0.197
Total Xylenes		<0.0188	0.0188	<0.0187	0.0187	3.32	0.0192	<0.0175	0.0175	<0.0178	0.0178	54.9	0.197
Total BTEX		<0.0188	0.0188	<0.0187	0.0187	4.60	0.0192	<0.0175	0.0175	<0.0178	0.0178	86.2	0.197
Inorganic Anions by EPA 300	***Extracted:***	May-29-18 16:00		May-29-18 16:00		May-29-18 16:00		May-29-18 16:00		May-29-18 16:00		May-29-18 16:00	
	Analyzed:	May-29-18 21:33		May-29-18 22:26		May-29-18 22:32		May-29-18 22:37		May-29-18 22:42		May-29-18 23:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		78.3	4.98	229	4.96	16.2	5.00	9.30	4.99	53.2	4.95	5810	50.0
TPH by SW8015 Mod	***Extracted:***	May-24-18 17:00		May-24-18 17:00		May-24-18 17:00		May-24-18 17:00		May-24-18 17:00		May-24-18 17:00	
	Analyzed:	May-25-18 19:23		May-25-18 19:41		May-25-18 19:59		May-25-18 20:17		May-25-18 20:35		May-25-18 20:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	141	14.9	<14.9	14.9	<15.0	15.0	1860	74.8
Diesel Range Organics (DRO)		317	15.0	142	15.0	828	14.9	35.2	14.9	<15.0	15.0	12500	74.8
Oil Range Hydrocarbons (ORO)		55.1	15.0	25.7	15.0	83.1	14.9	<14.9	14.9	<15.0	15.0	1450	74.8
Total TPH		372	15.0	168	15.0	1050	14.9	35.2	14.9	<15.0	15.0	15800	74.8

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

Julian Martinez
Project Manager

Certificate of Analysis Summary 587078

LT Environmental, Inc., Arvada, CO

Project Name: ADU #157

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu May-24-18 10:30 am
Report Date: 30-MAY-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	587078-007						
	Field Id:	SS07						
	Depth:	6- In						
	Matrix:	SOIL						
	Sampled:	May-23-18 12:01						
BTEX by EPA 8021B SUB: T104704219-17-16	***Extracted:***	May-25-18 12:30						
	Analyzed:	May-27-18 21:13						
	Units/RL:	mg/kg	RL					
Benzene		<0.0375	0.0375					
Toluene		<0.0375	0.0375					
Ethylbenzene		<0.0375	0.0375					
m,p-Xylenes		0.790	0.0749					
o-Xylene		0.0674	0.0375					
Total Xylenes		0.857	0.0375					
Total BTEX		0.857	0.0375					
Inorganic Anions by EPA 300	***Extracted:***	May-29-18 16:00						
	Analyzed:	May-29-18 22:48						
	Units/RL:	mg/kg	RL					
Chloride		48.0	5.00					
TPH by SW8015 Mod	***Extracted:***	May-24-18 17:00						
	Analyzed:	May-25-18 21:11						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0					
Diesel Range Organics (DRO)		394	15.0					
Oil Range Hydrocarbons (ORO)		153	15.0					
Total TPH		547	15.0					

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

Julian Martinez
Project Manager

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-001	Date Collected:	05.23.18 11.10	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**78.3**	4.98	mg/kg	05.29.18 21.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.25.18 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	**317**	15.0	mg/kg	05.25.18 19.23		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**55.1**	15.0	mg/kg	05.25.18 19.23		1
Total TPH	PHC635	**372**	15.0	mg/kg	05.25.18 19.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.25.18 19.23	
o-Terphenyl	84-15-1	107	%	70-135	05.25.18 19.23	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-001	Date Collected:	05.23.18 11.10	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051559			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1
Toluene	108-88-3	<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1
Ethylbenzene	100-41-4	<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	05.26.18 04.33	U	1
o-Xylene	95-47-6	<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1
Total Xylenes	1330-20-7	<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1
Total BTEX		<0.0188	0.0188	mg/kg	05.26.18 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	05.26.18 04.33	
a,a,a-Trifluorotoluene	98-08-8	87	%	71-121	05.26.18 04.33	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-002	Date Collected:	05.23.18 11.21	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**229**	4.96	mg/kg	05.29.18 22.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.25.18 19.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	**142**	15.0	mg/kg	05.25.18 19.41		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**25.7**	15.0	mg/kg	05.25.18 19.41		1
Total TPH	PHC635	**168**	15.0	mg/kg	05.25.18 19.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.25.18 19.41	
o-Terphenyl	84-15-1	107	%	70-135	05.25.18 19.41	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-002	Date Collected:	05.23.18 11.21	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051559			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1
Toluene	108-88-3	<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1
Ethylbenzene	100-41-4	<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1
m,p-Xylenes	179601-23-1	<0.0373	0.0373	mg/kg	05.26.18 08.35	U	1
o-Xylene	95-47-6	<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1
Total Xylenes	1330-20-7	<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1
Total BTEX		<0.0187	0.0187	mg/kg	05.26.18 08.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	05.26.18 08.35	
a,a,a-Trifluorotoluene	98-08-8	86	%	71-121	05.26.18 08.35	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-003	Date Collected:	05.23.18 11.31	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.2**	5.00	mg/kg	05.29.18 22.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**141**	14.9	mg/kg	05.25.18 19.59		1
Diesel Range Organics (DRO)	C10C28DRO	**828**	14.9	mg/kg	05.25.18 19.59		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**83.1**	14.9	mg/kg	05.25.18 19.59		1
Total TPH	PHC635	**1050**	14.9	mg/kg	05.25.18 19.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.25.18 19.59	
o-Terphenyl	84-15-1	122	%	70-135	05.25.18 19.59	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-003	Date Collected:	05.23.18 11.31	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051550			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	05.26.18 13.36	U	1
Toluene	108-88-3	**0.408**	0.0192	mg/kg	05.26.18 13.36		1
Ethylbenzene	100-41-4	**0.871**	0.0192	mg/kg	05.26.18 13.36		1
m,p-Xylenes	179601-23-1	**2.16**	0.0385	mg/kg	05.26.18 13.36		1
o-Xylene	95-47-6	**1.16**	0.0192	mg/kg	05.26.18 13.36		1
Total Xylenes	1330-20-7	**3.32**	0.0192	mg/kg	05.26.18 13.36		1
Total BTEX		**4.60**	0.0192	mg/kg	05.26.18 13.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	144	%	68-120	05.26.18 13.36	**
a,a,a-Trifluorotoluene	98-08-8	88	%	71-121	05.26.18 13.36	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-004	Date Collected:	05.23.18 11.39	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.30**	4.99	mg/kg	05.29.18 22.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.25.18 20.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	**35.2**	14.9	mg/kg	05.25.18 20.17		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	05.25.18 20.17	U	1
Total TPH	PHC635	**35.2**	14.9	mg/kg	05.25.18 20.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.25.18 20.17	
o-Terphenyl	84-15-1	110	%	70-135	05.25.18 20.17	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-004	Date Collected:	05.23.18 11.39	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051559			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1
Toluene	108-88-3	<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1
Ethylbenzene	100-41-4	<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1
m,p-Xylenes	179601-23-1	<0.0351	0.0351	mg/kg	05.26.18 09.02	U	1
o-Xylene	95-47-6	<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1
Total Xylenes	1330-20-7	<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1
Total BTEX		<0.0175	0.0175	mg/kg	05.26.18 09.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	05.26.18 09.02	
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	05.26.18 09.02	

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LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-005	Date Collected:	05.23.18 11.47	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.2**	4.95	mg/kg	05.29.18 22.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.25.18 20.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.25.18 20.35	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.25.18 20.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.25.18 20.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.25.18 20.35	
o-Terphenyl	84-15-1	111	%	70-135	05.25.18 20.35	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-005	Date Collected:	05.23.18 11.47	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051559			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1
Toluene	108-88-3	<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1
Ethylbenzene	100-41-4	<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1
m,p-Xylenes	179601-23-1	<0.0356	0.0356	mg/kg	05.26.18 09.29	U	1
o-Xylene	95-47-6	<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1
Total Xylenes	1330-20-7	<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1
Total BTEX		<0.0178	0.0178	mg/kg	05.26.18 09.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	05.26.18 09.29	
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	05.26.18 09.29	

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LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-006	Date Collected:	05.23.18 11.53	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5810**	50.0	mg/kg	05.29.18 23.04		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1860**	74.8	mg/kg	05.25.18 20.53		5
Diesel Range Organics (DRO)	C10C28DRO	**12500**	74.8	mg/kg	05.25.18 20.53		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**1450**	74.8	mg/kg	05.25.18 20.53		5
Total TPH	PHC635	**15800**	74.8	mg/kg	05.25.18 20.53		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	05.25.18 20.53	
o-Terphenyl	84-15-1	127	%	70-135	05.25.18 20.53	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-006	Date Collected:	05.23.18 11.53	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051550			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.34**	0.197	mg/kg	05.27.18 20.48		10
Toluene	108-88-3	**16.5**	0.197	mg/kg	05.27.18 20.48		10
Ethylbenzene	100-41-4	**13.5**	0.197	mg/kg	05.27.18 20.48		10
m,p-Xylenes	179601-23-1	**36.7**	0.394	mg/kg	05.27.18 20.48		10
o-Xylene	95-47-6	**18.2**	0.197	mg/kg	05.27.18 20.48		10
Total Xylenes	1330-20-7	**54.9**	0.197	mg/kg	05.27.18 20.48		10
Total BTEX		**86.2**	0.197	mg/kg	05.27.18 20.48		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	193	%	68-120	05.27.18 20.48	**
a,a,a-Trifluorotoluene	98-08-8	86	%	71-121	05.27.18 20.48	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-007	Date Collected:	05.23.18 12.01	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.29.18 16.00	Basis:	Wet Weight
Seq Number:	3051659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**48.0**	5.00	mg/kg	05.29.18 22.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.24.18 17.00	Basis:	Wet Weight
Seq Number:	3051512				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.25.18 21.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**394**	15.0	mg/kg	05.25.18 21.11		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**153**	15.0	mg/kg	05.25.18 21.11		1
Total TPH	PHC635	**547**	15.0	mg/kg	05.25.18 21.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.25.18 21.11	
o-Terphenyl	84-15-1	108	%	70-135	05.25.18 21.11	

Certificate of Analytical Results 587078

LT Environmental, Inc., Arvada, CO

ADU #157

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	05.24.18 10.30
Lab Sample Id:	587078-007	Date Collected:	05.23.18 12.01	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	05.25.18 12.30	Basis:	Wet Weight
Seq Number:	3051550			SUB:	T104704219-17-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0375	0.0375	mg/kg	05.27.18 21.13	U	2
Toluene	108-88-3	<0.0375	0.0375	mg/kg	05.27.18 21.13	U	2
Ethylbenzene	100-41-4	<0.0375	0.0375	mg/kg	05.27.18 21.13	U	2
m,p-Xylenes	179601-23-1	**0.790**	0.0749	mg/kg	05.27.18 21.13		2
o-Xylene	95-47-6	**0.0674**	0.0375	mg/kg	05.27.18 21.13		2
Total Xylenes	1330-20-7	**0.857**	0.0375	mg/kg	05.27.18 21.13		2
Total BTEX		**0.857**	0.0375	mg/kg	05.27.18 21.13		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	05.27.18 21.13	
a,a,a-Trifluorotoluene	98-08-8	87	%	71-121	05.27.18 21.13	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 587078

LT Environmental, Inc.

ADU #157

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3051659 — Matrix: Solid — Date Prep: 05.29.18
MB Sample Id: 7655611-1-BLK — LCS Sample Id: 7655611-1-BKS — LCSD Sample Id: 7655611-1-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	262	105	261	104	90-110	0	20	mg/kg	05.29.18 21:23	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3051659 — Matrix: Soil — Date Prep: 05.29.18
Parent Sample Id: 587078-001 — MS Sample Id: 587078-001 S — MSD Sample Id: 587078-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	78.3	249	334	103	336	103	90-110	1	20	mg/kg	05.29.18 21:39	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3051659 — Matrix: Soil — Date Prep: 05.29.18
Parent Sample Id: 587078-007 — MS Sample Id: 587078-007 S — MSD Sample Id: 587078-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.0	250	306	103	308	104	90-110	1	20	mg/kg	05.29.18 22:53	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3051512 — Matrix: Solid — Date Prep: 05.24.18
MB Sample Id: 7655529-1-BLK — LCS Sample Id: 7655529-1-BKS — LCSD Sample Id: 7655529-1-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	901	90	937	94	70-135	4	20	mg/kg	05.25.18 14:12	
Diesel Range Organics (DRO)	<15.0	1000	994	99	1040	104	70-135	5	20	mg/kg	05.25.18 14:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		127		126		70-135	%	05.25.18 14:12
o-Terphenyl	101		110		113		70-135	%	05.25.18 14:12

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

QC Summary 587078

LT Environmental, Inc.

ADU #157

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3051512 — Matrix: Soil — Date Prep: 05.24.18
Parent Sample Id: 586096-017 — MS Sample Id: 586096-017 S — MSD Sample Id: 586096-017 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	902	90	909	91	70-135	1	20	mg/kg	05.25.18 15:08	
Diesel Range Organics (DRO)	673	997	1690	102	1710	104	70-135	1	20	mg/kg	05.25.18 15:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		126		70-135	%	05.25.18 15:08
o-Terphenyl	129		128		70-135	%	05.25.18 15:08

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3051550 — Matrix: Solid — Date Prep: 05.25.18
MB Sample Id: 7655476-1-BLK — LCS Sample Id: 7655476-1-BKS — LCSD Sample Id: 7655476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.77	89	1.84	92	55-120	4	20	mg/kg	05.26.18 08:40	
Toluene	<0.0200	2.00	1.81	91	1.89	95	77-120	4	20	mg/kg	05.26.18 08:40	
Ethylbenzene	<0.0200	2.00	1.83	92	1.91	96	77-120	4	20	mg/kg	05.26.18 08:40	
m,p-Xylenes	<0.0400	4.00	3.64	91	3.80	95	78-120	4	20	mg/kg	05.26.18 08:40	
o-Xylene	<0.0200	2.00	1.81	91	1.89	95	78-120	4	20	mg/kg	05.26.18 08:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	82		83		84		68-120	%	05.26.18 08:40
a,a,a-Trifluorotoluene	86		86		86		71-121	%	05.26.18 08:40

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3051559 — Matrix: Solid — Date Prep: 05.25.18
MB Sample Id: 7655481-1-BLK — LCS Sample Id: 7655481-1-BKS — LCSD Sample Id: 7655481-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.55	78	1.63	82	55-120	5	20	mg/kg	05.25.18 21:19	
Toluene	<0.0200	2.00	1.53	77	1.57	79	77-120	3	20	mg/kg	05.25.18 21:19	
Ethylbenzene	<0.0200	2.00	1.57	79	1.61	81	77-120	3	20	mg/kg	05.25.18 21:19	
m,p-Xylenes	<0.0400	4.00	3.19	80	3.27	82	78-120	2	20	mg/kg	05.25.18 21:19	
o-Xylene	<0.0200	2.00	1.64	82	1.68	84	78-120	2	20	mg/kg	05.25.18 21:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	80		81		83		68-120	%	05.25.18 21:19
a,a,a-Trifluorotoluene	81		74		79		71-121	%	05.25.18 21:19

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 587078

LT Environmental, Inc.

ADU #157

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3051550 — Matrix: Soil — Date Prep: 05.25.18
Parent Sample Id: 587079-001 — MS Sample Id: 587079-001 S — MSD Sample Id: 587079-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0185	1.85	1.53	83	1.67	85	54-120	9	25	mg/kg	05.26.18 10:56	
Toluene	<0.0185	1.85	1.58	85	1.73	88	57-120	9	25	mg/kg	05.26.18 10:56	
Ethylbenzene	<0.0185	1.85	1.61	87	1.76	90	58-131	9	25	mg/kg	05.26.18 10:56	
m,p-Xylenes	<0.0370	3.70	3.21	87	3.51	89	62-124	9	25	mg/kg	05.26.18 10:56	
o-Xylene	<0.0185	1.85	1.57	85	1.71	87	62-124	9	25	mg/kg	05.26.18 10:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	83		88		68-120	%	05.26.18 10:56
a,a,a-Trifluorotoluene	89		90		71-121	%	05.26.18 10:56

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3051559 — Matrix: Soil — Date Prep: 05.25.18
Parent Sample Id: 587080-001 — MS Sample Id: 587080-001 S — MSD Sample Id: 587080-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0190	1.90	1.32	69	1.29	69	54-120	2	25	mg/kg	05.25.18 23:35	
Toluene	<0.0190	1.90	1.31	69	1.34	72	57-120	2	25	mg/kg	05.25.18 23:35	
Ethylbenzene	<0.0190	1.90	1.40	74	1.48	80	58-131	6	25	mg/kg	05.25.18 23:35	
m,p-Xylenes	<0.0380	3.80	2.84	75	3.02	81	62-124	6	25	mg/kg	05.25.18 23:35	
o-Xylene	<0.0190	1.90	1.47	77	1.53	82	62-124	4	25	mg/kg	05.25.18 23:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	85		90		68-120	%	05.25.18 23:35
a,a,a-Trifluorotoluene	81		77		71-121	%	05.25.18 23:35

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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Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 587078

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

Project Information

Project Name/Number: ADU #157
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-24337

Analytical Information

BTEX EPA Method 8021
TPH EPA Method 8015
Chloride EPA Method 300.0

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	Field Comments
1	SS01	6"	5/23/18	1110	S	1								1	
2	SS02			1121		1								1	
3	SS03			1131		1								1	
4	SS04			1139		1								1	
5	SS05			1147		1								1	
6	SS06			1153		1								1	
7	SS07			1201		1								1	
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

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	William Aaron	5/23/18 1307	1	2	5/23 15:30	2 Caitlin Lee 5/24/18 10:30
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 1.8 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.

Inter-Office Shipment

IOS Number **107773**

Date/Time: 05/24/18 11:11
Lab# From: **Midland**
Lab# To: **Lubbock**

Created by: Katie Lowe
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 1211 W. Florida Ave, Midland TX 79701
Phone:
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
587078-001	S	SS01	05/23/18 11:10	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-002	S	SS02	05/23/18 11:21	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-003	S	SS03	05/23/18 11:31	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-004	S	SS04	05/23/18 11:39	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-005	S	SS05	05/23/18 11:47	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-006	S	SS06	05/23/18 11:53	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	
587078-007	S	SS07	05/23/18 12:01	SW8021B	BTEX by EPA 8021B	05/31/18	06/06/18	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By 
Katie Lowe

Date Relinquished: 05/24/2018

Received By: _____

Date Received: _____

Cooler Temperature: _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/24/2018 10:30:00 AM

Work Order #: 587078

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)?	1.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Lubbock
#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: 05/24/2018

Checklist reviewed by: Jessica Kramer Date: 05/24/2018

Jessica Kramer

Analytical Report 597740

for

LT Environmental, Inc.

Project Manager: Adrian Baker

ADU-157

10-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
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)
Xenco-Lakeland: Florida (E84098)

10-SEP-18

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

Reference: XENCO Report No(s): **597740**
ADU-157
Project Address: Carlsbad, 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) 597740. 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. 597740 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 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	08-28-18 09:50	10 ft	597740-001
SW02	S	08-28-18 10:10	8 ft	597740-002
SW03	S	08-28-18 10:15	5 ft	597740-003
SW04	S	08-28-18 11:30	5 ft	597740-004
SW05	S	08-28-18 12:30	5 ft	597740-005
SW06	S	08-28-18 15:20	6 ft	597740-006
SW07	S	08-28-18 15:30	3 ft	597740-007
FS02	S	08-28-18 10:25	12 ft	597740-008
FS03	S	08-28-18 14:30	7 ft	597740-009
FS04	S	08-28-18 14:40	7 ft	597740-010
SW08	S	08-29-18 10:00	3 ft	597740-011
SW09	S	08-29-18 10:30	4 ft	597740-012
SW10	S	08-29-18 14:10	4 ft	597740-013
SW01	S	08-29-18 10:05	5 ft	597740-014

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU-157

Project ID:
Work Order Number(s): *597740*

Report Date: *10-SEP-18*
Date Received: *08/31/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3062450 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 597740-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Toluene recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 597740-001.
The Laboratory Control Sample for Toluene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3062498 BTEX by EPA 8021B
Lab Sample ID 597740-011 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: 597740-004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 597740-011.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3062575 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 597740

LT Environmental, Inc., Arvada, CO

Project Name: ADU-157

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Fri Aug-31-18 11:40 am
Report Date: 10-SEP-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	597740-001		597740-002		597740-003		597740-004		597740-005		597740-006	
	Field Id:	FS01		SW02		SW03		SW04		SW05		SW06	
	Depth:	10- ft		8- ft		5- ft		5- ft		5- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-28-18 09:50		Aug-28-18 10:10		Aug-28-18 10:15		Aug-28-18 11:30		Aug-28-18 12:30		Aug-28-18 15:20	
BTEX by EPA 8021B	***Extracted:***	Sep-06-18 09:00		Sep-09-18 10:00		Sep-09-18 10:00		Sep-07-18 08:30		Sep-07-18 08:30		Sep-07-18 08:30	
	Analyzed:	Sep-06-18 13:44		Sep-10-18 01:12		Sep-10-18 11:04		Sep-07-18 16:43		Sep-07-18 17:04		Sep-07-18 17:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00401	0.00401	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00	
	Analyzed:	Aug-31-18 21:54		Aug-31-18 21:59		Aug-31-18 22:15		Aug-31-18 22:20		Aug-31-18 22:26		Aug-31-18 22:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		181	5.00	137	4.96	139	4.99	391	5.02	19.3	5.00	<4.98	4.98
TPH by SW8015 Mod	***Extracted:***	Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00	
	Analyzed:	Aug-31-18 22:33		Aug-31-18 23:32		Aug-31-18 23:52		Sep-01-18 00:11		Sep-01-18 00:31		Sep-01-18 00:51	
	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	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 597740

LT Environmental, Inc., Arvada, CO

Project Name: ADU-157

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Fri Aug-31-18 11:40 am
Report Date: 10-SEP-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	597740-007		597740-008		597740-009		597740-010		597740-011		597740-012	
	Field Id:	SW07		FS02		FS03		FS04		SW08		SW09	
	Depth:	3- ft		12- ft		7- ft		7- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-28-18 15:30		Aug-28-18 10:25		Aug-28-18 14:30		Aug-28-18 14:40		Aug-29-18 10:00		Aug-29-18 10:30	
BTEX by EPA 8021B	***Extracted:***	Sep-07-18 08:30		Sep-07-18 08:30		Sep-07-18 08:30		Sep-07-18 08:30		Sep-07-18 08:30		Sep-07-18 08:30	
	Analyzed:	Sep-07-18 18:25		Sep-07-18 18:47		Sep-07-18 19:08		Sep-07-18 19:29		Sep-07-18 12:32		Sep-07-18 19:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00201	0.00201	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00		Aug-31-18 15:00	
	Analyzed:	Aug-31-18 22:36		Aug-31-18 22:42		Aug-31-18 22:58		Aug-31-18 23:03		Aug-31-18 23:19		Aug-31-18 23:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.97	4.97	89.9	5.00	<4.96	4.96	47.7	4.99	52.6	4.97	20.8	4.96
TPH by SW8015 Mod	***Extracted:***	Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00		Aug-31-18 17:00	
	Analyzed:	Sep-01-18 01:10		Sep-01-18 01:30		Sep-01-18 01:49		Sep-01-18 02:09		Sep-01-18 03:07		Sep-01-18 03:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	41.7	15.0	15.5	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	41.7	15.0	15.5	15.0

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 597740

LT Environmental, Inc., Arvada, CO

Project Name: ADU-157

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Fri Aug-31-18 11:40 am
Report Date: 10-SEP-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	597740-013		597740-014					
	Field Id:	SW10		SW01					
	Depth:	4- ft		5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Aug-29-18 14:10		Aug-29-18 10:05					
BTEX by EPA 8021B	***Extracted:***	Sep-07-18 08:30		Sep-07-18 08:30					
	Analyzed:	Sep-07-18 20:12		Sep-07-18 20:33					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00198	0.00198				
Toluene		<0.00202	0.00202	<0.00198	0.00198				
Ethylbenzene		<0.00202	0.00202	<0.00198	0.00198				
m,p-Xylenes		<0.00403	0.00403	<0.00397	0.00397				
o-Xylene		<0.00202	0.00202	<0.00198	0.00198				
Total Xylenes		<0.00202	0.00202	<0.00198	0.00198				
Total BTEX		<0.00202	0.00202	<0.00198	0.00198				
Inorganic Anions by EPA 300	***Extracted:***	Aug-31-18 15:00		Aug-31-18 15:00					
	Analyzed:	Aug-31-18 23:29		Aug-31-18 23:35					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		4430	50.0	9990	100				
TPH by SW8015 Mod	***Extracted:***	Aug-31-18 17:00		Aug-31-18 17:00					
	Analyzed:	Sep-01-18 03:47		Sep-01-18 04:06					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		536	14.9	21.5	15.0				
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0				
Total TPH		536	14.9	21.5	15.0				

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Jessica Kramer
Project Assistant

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-001	Date Collected:	08.28.18 09.50	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**181**	5.00	mg/kg	08.31.18 21.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.31.18 22.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.31.18 22.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.31.18 22.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.31.18 22.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.31.18 22.33	
o-Terphenyl	84-15-1	97	%	70-135	08.31.18 22.33	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-001	Date Collected:	08.28.18 09.50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.06.18 09.00	Basis:	Wet Weight
Seq Number:	3062450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.06.18 13.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.06.18 13.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	70-130	09.06.18 13.44	
1,4-Difluorobenzene	540-36-3	115	%	70-130	09.06.18 13.44	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-002	Date Collected:	08.28.18 10.10	Sample Depth:	8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**137**	4.96	mg/kg	08.31.18 21.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.31.18 23.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.31.18 23.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.31.18 23.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.31.18 23.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.31.18 23.32	
o-Terphenyl	84-15-1	93	%	70-135	08.31.18 23.32	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-002	Date Collected:	08.28.18 10.10	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.09.18 10.00	Basis:	Wet Weight
Seq Number:	3062575				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.10.18 01.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.10.18 01.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	09.10.18 01.12	
1,4-Difluorobenzene	540-36-3	96	%	70-130	09.10.18 01.12	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-003	Date Collected:	08.28.18 10.15	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**139**	4.99	mg/kg	08.31.18 22.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.31.18 23.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.31.18 23.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.31.18 23.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.31.18 23.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.31.18 23.52	
o-Terphenyl	84-15-1	97	%	70-135	08.31.18 23.52	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-003	Date Collected:	08.28.18 10.15	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.09.18 10.00	Basis:	Wet Weight
Seq Number:	3062575				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.10.18 11.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.10.18 11.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	09.10.18 11.04	
4-Bromofluorobenzene	460-00-4	94	%	70-130	09.10.18 11.04	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-004	Date Collected:	08.28.18 11.30	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**391**	5.02	mg/kg	08.31.18 22.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 00.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.01.18 00.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 00.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.01.18 00.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.01.18 00.11	
o-Terphenyl	84-15-1	94	%	70-135	09.01.18 00.11	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-004	Date Collected:	08.28.18 11.30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.18 16.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.18 16.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	09.07.18 16.43	
1,4-Difluorobenzene	540-36-3	124	%	70-130	09.07.18 16.43	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-005	Date Collected:	08.28.18 12.30	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.3**	5.00	mg/kg	08.31.18 22.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.01.18 00.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.01.18 00.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.01.18 00.31	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.01.18 00.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.01.18 00.31	
o-Terphenyl	84-15-1	92	%	70-135	09.01.18 00.31	

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-005	Date Collected:	08.28.18 12.30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.18 17.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.18 17.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	122	%	70-130	09.07.18 17.04	
4-Bromofluorobenzene	460-00-4	73	%	70-130	09.07.18 17.04	

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-006	Date Collected:	08.28.18 15.20	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	08.31.18 22.31	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.01.18 00.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.01.18 00.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.01.18 00.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.01.18 00.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.01.18 00.51	
o-Terphenyl	84-15-1	93	%	70-135	09.01.18 00.51	

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-006	Date Collected:	08.28.18 15.20	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.18 17.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.18 17.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	70-130	09.07.18 17.35	
1,4-Difluorobenzene	540-36-3	117	%	70-130	09.07.18 17.35	

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Sample Id:	**SW07**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-007	Date Collected:	08.28.18 15.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	08.31.18 22.36	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 01.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.01.18 01.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 01.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.01.18 01.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.01.18 01.10	
o-Terphenyl	84-15-1	92	%	70-135	09.01.18 01.10	

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Sample Id:	**SW07**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-007	Date Collected:	08.28.18 15.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.18 18.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.18 18.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	09.07.18 18.25	
1,4-Difluorobenzene	540-36-3	124	%	70-130	09.07.18 18.25	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**FS02**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-008	Date Collected:	08.28.18 10.25	Sample Depth:	12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**89.9**	5.00	mg/kg	08.31.18 22.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 01.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.01.18 01.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 01.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.01.18 01.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	09.01.18 01.30	
o-Terphenyl	84-15-1	84	%	70-135	09.01.18 01.30	

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Sample Id:	**FS02**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-008	Date Collected:	08.28.18 10.25	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.07.18 18.47	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.07.18 18.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	123	%	70-130	09.07.18 18.47	
4-Bromofluorobenzene	460-00-4	92	%	70-130	09.07.18 18.47	

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Sample Id:	**FS03**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-009	Date Collected:	08.28.18 14.30	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	08.31.18 22.58	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 01.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.01.18 01.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 01.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.01.18 01.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	09.01.18 01.49	
o-Terphenyl	84-15-1	95	%	70-135	09.01.18 01.49	

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Sample Id:	**FS03**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-009	Date Collected:	08.28.18 14.30	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.07.18 19.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.07.18 19.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	09.07.18 19.08	
4-Bromofluorobenzene	460-00-4	86	%	70-130	09.07.18 19.08	

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Sample Id:	**FS04**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-010	Date Collected:	08.28.18 14.40	Sample Depth:	7 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**47.7**	4.99	mg/kg	08.31.18 23.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.01.18 02.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 02.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.01.18 02.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	09.01.18 02.09	
o-Terphenyl	84-15-1	93	%	70-135	09.01.18 02.09	

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Sample Id:	**FS04**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-010	Date Collected:	08.28.18 14.40	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.18 19.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.18 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	09.07.18 19.29	
1,4-Difluorobenzene	540-36-3	119	%	70-130	09.07.18 19.29	

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Sample Id:	**SW08**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-011	Date Collected:	08.29.18 10.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.6**	4.97	mg/kg	08.31.18 23.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 03.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.7**	15.0	mg/kg	09.01.18 03.07		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 03.07	U	1
Total TPH	PHC635	**41.7**	15.0	mg/kg	09.01.18 03.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.01.18 03.07	
o-Terphenyl	84-15-1	97	%	70-135	09.01.18 03.07	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW08**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-011	Date Collected:	08.29.18 10.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.07.18 12.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.18 12.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	09.07.18 12.32	
1,4-Difluorobenzene	540-36-3	134	%	70-130	09.07.18 12.32	**

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Sample Id:	**SW09**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-012	Date Collected:	08.29.18 10.30	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.8**	4.96	mg/kg	08.31.18 23.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 03.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**15.5**	15.0	mg/kg	09.01.18 03.27		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 03.27	U	1
Total TPH	PHC635	**15.5**	15.0	mg/kg	09.01.18 03.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	09.01.18 03.27	
o-Terphenyl	84-15-1	91	%	70-135	09.01.18 03.27	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-012	Date Collected:	08.29.18 10.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.07.18 19.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.07.18 19.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	09.07.18 19.51	
1,4-Difluorobenzene	540-36-3	111	%	70-130	09.07.18 19.51	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-013	Date Collected:	08.29.18 14.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4430**	50.0	mg/kg	08.31.18 23.29		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.01.18 03.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**536**	14.9	mg/kg	09.01.18 03.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.01.18 03.47	U	1
Total TPH	PHC635	**536**	14.9	mg/kg	09.01.18 03.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.01.18 03.47	
o-Terphenyl	84-15-1	104	%	70-135	09.01.18 03.47	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-013	Date Collected:	08.29.18 14.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.07.18 20.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.07.18 20.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	09.07.18 20.12	
4-Bromofluorobenzene	460-00-4	92	%	70-130	09.07.18 20.12	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-014	Date Collected:	08.29.18 10.05	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.31.18 15.00	Basis:	Wet Weight
Seq Number:	3062001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9990**	100	mg/kg	08.31.18 23.35		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.31.18 17.00	Basis:	Wet Weight
Seq Number:	3061968				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.01.18 04.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**21.5**	15.0	mg/kg	09.01.18 04.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.01.18 04.06	U	1
Total TPH	PHC635	**21.5**	15.0	mg/kg	09.01.18 04.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.01.18 04.06	
o-Terphenyl	84-15-1	94	%	70-135	09.01.18 04.06	

Certificate of Analytical Results 597740

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	08.31.18 11.40
Lab Sample Id:	597740-014	Date Collected:	08.29.18 10.05	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.07.18 08.30	Basis:	Wet Weight
Seq Number:	3062498				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.07.18 20.33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.07.18 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	09.07.18 20.33	
4-Bromofluorobenzene	460-00-4	91	%	70-130	09.07.18 20.33	

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 597740

LT Environmental, Inc.

ADU-157

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3062001 — Matrix: Solid — Date Prep: 08.31.18
MB Sample Id: 7661581-1-BLK — LCS Sample Id: 7661581-1-BKS — LCSD Sample Id: 7661581-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	245	98	243	97	90-110	1	20	mg/kg	08.31.18 21:17	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3062001 — Matrix: Soil — Date Prep: 08.31.18
Parent Sample Id: 597725-002 — MS Sample Id: 597725-002 S — MSD Sample Id: 597725-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	324	250	583	104	576	101	90-110	1	20	mg/kg	08.31.18 21:33	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3062001 — Matrix: Soil — Date Prep: 08.31.18
Parent Sample Id: 597740-008 — MS Sample Id: 597740-008 S — MSD Sample Id: 597740-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	89.9	250	341	100	342	101	90-110	0	20	mg/kg	08.31.18 22:47	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3061968 — Matrix: Solid — Date Prep: 08.31.18
MB Sample Id: 7661564-1-BLK — LCS Sample Id: 7661564-1-BKS — LCSD Sample Id: 7661564-1-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	914	91	927	93	70-135	1	20	mg/kg	08.31.18 21:53	
Diesel Range Organics (DRO)	<8.13	1000	920	92	930	93	70-135	1	20	mg/kg	08.31.18 21:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		126		126		70-135	%	08.31.18 21:53
o-Terphenyl	96		98		102		70-135	%	08.31.18 21:53

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

QC Summary 597740

LT Environmental, Inc.

ADU-157

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3061968 | Matrix: Soil | Date Prep: 08.31.18
Parent Sample Id: 597740-001 | MS Sample Id: 597740-001 S | MSD Sample Id: 597740-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	930	93	961	96	70-135	3	20	mg/kg	08.31.18 22:52	
Diesel Range Organics (DRO)	<8.11	998	947	95	968	97	70-135	2	20	mg/kg	08.31.18 22:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		115		70-135	%	08.31.18 22:52
o-Terphenyl	104		100		70-135	%	08.31.18 22:52

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3062450 | Matrix: Solid | Date Prep: 09.06.18
MB Sample Id: 7661851-1-BLK | LCS Sample Id: 7661851-1-BKS | LCSD Sample Id: 7661851-1-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	0.0998	0.0980	98	0.0930	93	70-130	5	35	mg/kg	09.06.18 11:37	
Toluene	<0.000455	0.0998	0.0967	97	0.0934	93	70-130	3	35	mg/kg	09.06.18 11:37	
Ethylbenzene	<0.00200	0.0998	0.100	100	0.0993	99	70-130	1	35	mg/kg	09.06.18 11:37	
m,p-Xylenes	<0.00101	0.200	0.205	103	0.198	99	70-130	3	35	mg/kg	09.06.18 11:37	
o-Xylene	<0.00200	0.0998	0.0961	96	0.0932	93	70-130	3	35	mg/kg	09.06.18 11:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		93		98		70-130	%	09.06.18 11:37
4-Bromofluorobenzene	70		82		87		70-130	%	09.06.18 11:37

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3062498 | Matrix: Solid | Date Prep: 09.07.18
MB Sample Id: 7661871-1-BLK | LCS Sample Id: 7661871-1-BKS | LCSD Sample Id: 7661871-1-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	0.123	123	0.121	122	70-130	2	35	mg/kg	09.07.18 09:38	
Toluene	<0.00201	0.100	0.0897	90	0.0875	88	70-130	2	35	mg/kg	09.07.18 09:38	
Ethylbenzene	<0.00201	0.100	0.103	103	0.0993	100	70-130	4	35	mg/kg	09.07.18 09:38	
m,p-Xylenes	<0.00102	0.201	0.204	101	0.197	99	70-130	3	35	mg/kg	09.07.18 09:38	
o-Xylene	<0.00201	0.100	0.0983	98	0.0941	95	70-130	4	35	mg/kg	09.07.18 09:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		89		89		70-130	%	09.07.18 09:38
4-Bromofluorobenzene	90		90		92		70-130	%	09.07.18 09:38

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

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

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

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

Final 1.000

QC Summary 597740

LT Environmental, Inc.

ADU-157

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3062575 — Matrix: Solid — Date Prep: 09.09.18
MB Sample Id: 7661928-1-BLK — LCS Sample Id: 7661928-1-BKS — LCSD Sample Id: 7661928-1-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	0.0998	0.101	101	0.0903	90	70-130	11	35	mg/kg	09.10.18 11:04	
Toluene	<0.00200	0.0998	0.0984	99	0.0908	91	70-130	8	35	mg/kg	09.10.18 11:04	
Ethylbenzene	<0.00200	0.0998	0.102	102	0.0937	94	70-130	8	35	mg/kg	09.10.18 11:04	
m,p-Xylenes	<0.00399	0.200	0.203	102	0.187	93	70-130	8	35	mg/kg	09.10.18 11:04	
o-Xylene	<0.00200	0.0998	0.102	102	0.0924	92	70-130	10	35	mg/kg	09.10.18 11:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		94		88		70-130	%	09.10.18 11:04
4-Bromofluorobenzene	94		98		92		70-130	%	09.10.18 11:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3062575 — Matrix: Soil — Date Prep: 09.09.18
Parent Sample Id: 598366-001 — MS Sample Id: 598366-001 S — MSD Sample Id: 598366-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0698	70	0.0913	91	70-130	27	35	mg/kg	09.10.18 11:04	
Toluene	<0.00199	0.0996	0.0622	62	0.0886	89	70-130	35	35	mg/kg	09.10.18 11:04	X
Ethylbenzene	<0.00199	0.0996	0.0556	56	0.0896	90	70-130	47	35	mg/kg	09.10.18 11:04	XF
m,p-Xylenes	<0.00398	0.199	0.109	55	0.178	89	70-130	48	35	mg/kg	09.10.18 11:04	XF
o-Xylene	<0.00199	0.0996	0.0581	58	0.0875	88	70-130	40	35	mg/kg	09.10.18 11:04	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		90		70-130	%	09.10.18 11:04
4-Bromofluorobenzene	94		94		70-130	%	09.10.18 11:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3062450 — Matrix: Soil — Date Prep: 09.06.18
Parent Sample Id: 597740-001 — MS Sample Id: 597740-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00199	0.199	0.228	115	70-130	mg/kg	09.06.18 18:17	
Toluene	<0.000454	0.199	0.266	134	70-130	mg/kg	09.06.18 18:17	X
Ethylbenzene	<0.00199	0.199	0.164	82	70-130	mg/kg	09.06.18 18:17	
m,p-Xylenes	<0.00101	0.398	0.327	82	70-130	mg/kg	09.06.18 18:17	
o-Xylene	<0.00199	0.199	0.155	78	70-130	mg/kg	09.06.18 18:17	

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		70-130	%	09.06.18 18:17
4-Bromofluorobenzene	84		70-130	%	09.06.18 18:17

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 597740

LT Environmental, Inc.

ADU-157

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

Seq Number: 3062498 Matrix: Soil Date Prep: 09.07.18

Parent Sample Id: 597740-011 MS Sample Id: 597740-011 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0208	21	70-130	mg/kg	09.07.18 10:48	X
Toluene	0.000659	0.100	0.0122	12	70-130	mg/kg	09.07.18 10:48	X
Ethylbenzene	<0.00200	0.100	0.0113	11	70-130	mg/kg	09.07.18 10:48	X
m,p-Xylenes	<0.00102	0.200	0.0212	11	70-130	mg/kg	09.07.18 10:48	X
o-Xylene	<0.00200	0.100	0.0102	10	70-130	mg/kg	09.07.18 10:48	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	123		70-130	%	09.07.18 10:48
4-Bromofluorobenzene	85		70-130	%	09.07.18 10:48

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

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Revision 2016.1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford, TX (281) 240-4200 | El Paso, TX (915) 585-3443 | Midland, TX (432) 704-5440 | Phoenix, AZ (480) 355-0900 | Service Center- Amarillo, TX (806)678-4514
Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550

www.xenco.com

Xenco Quote # | Xenco Job # 597740

Client / Reporting Information

Company Name / Branch: LT Environmental
Company Address: 3300 'A' Street Building 1, #103, Midland, TX
Email: ABaker@LTEnv.com Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Garrett Green

Project Information

Project Name/Number: ADU - 157
Project Location: Carlsbad, NM
Invoice To: Kyle Littrell / XTO
PO Number: ZRP-4778

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 (Only BTEX)	TPH (DRO)(GRO)(MRO)	Chloride (300.0)	Field Comments
1	FS01	10'	8/28/18	0950	S									X	X	X	X	
2	SW02	8'	8/28/18	1010	S									X	X	X	X	
3	SW03	5'	8/28/18	1015	S									X	X	X	X	
4	SW04	5'	8/28/18	1130	S									X	X	X	X	
5	SW05	5'	8/28/18	1230	S									X	X	X	X	
6	SW06	6'	8/28/18	1520	S									X	X	X	X	
7	SW07	3'	8/28/18	1530	S									X	X	X	X	
8	FS02	12'	8/28/18	1025	S									X	X	X	X	
9	FS03	7'	8/28/18	1430	S									X	X	X	X	
10	FS04	7'	8/28/18	1440	S									X	X	X	X	

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

Data Deliverable Information

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

Notes:

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

FED-EX / UPS: Tracking # 773108845 1526

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	Garrett Green	08/30/2018 1045	Cami Taylor	Cami Taylor	8/30 15:30	Rueche 8/31/18 11:40
2						
3						
4						
5						

	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.	Thermo. Corr. Factor
1						✓	2.9 R	0.0
2								
3								
4								
5								

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

XENCO LABORATORIES

Setting the Standard since 1990

CHAIN OF CUSTODY

Page 2 Of 2

Revision 2016.1

Stafford, TX (281) 240-4200 | El Paso, TX (915) 585-3443 | Midland, TX (432) 704-5440 | Phoenix, AZ (480) 355-0900 | Service Center- Amarillo, TX (806)678-4514
Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550
www.xenco.com

Xenco Quote # | Xenco Job # 597740

Client / Reporting Information

Company Name / Branch: LT Environmental
Company Address: 3300 'A' Street Building 1, #103, Midland, TX
Email: ABaker@LTEnv.com Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Garrett Green

Project Information

Project Name/Number: AOU-157
Project Location: Carlsbad, NM
Invoice To: Kyle Littrell / XTO
PO Number: 2RP-4778

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	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX (only BTEX)	TPH (DRO)(GRO)(MRO)	Chloride (300.00)	Field Comments
1	SW08	3'	8/29/18	1000	S									X	X	X	X	
2	SW09	4'	8/29/18	1030	S									X	X	X	X	
3	SW10	4'	8/29/18	1410	S									X	X	X	X	
4	SW01	5'	8/29/18	1005	S									X	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

Data Deliverable Information

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

Notes:

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

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	Garrett Green	08/30/2018 1045				
2				8/30 15:30	8/30 15:30	
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

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

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: 08/31/2018 11:40:59 AM

Work Order #: 597740

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.9
#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: 08/31/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 09/04/2018
Jessica Kramer

Analytical Report 599704

for

LT Environmental, Inc.

Project Manager: Adrian Baker

ADU-157

27-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
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)
Xenco-Lakeland: Florida (E84098)

27-SEP-18

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

Reference: XENCO Report No(s): **599704**
ADU-157
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 599704. 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. 599704 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 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS05	S	09-17-18 13:10	6 ft	599704-001
SW11	S	09-17-18 13:15	4 ft	599704-002
SW12	S	09-17-18 13:20	3 ft	599704-003
SW13	S	09-17-18 13:25	4 ft	599704-004
FS06	S	09-17-18 15:00	6.5 ft	599704-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU-157

Project ID:
Work Order Number(s): *599704*

Report Date: *27-SEP-18*
Date Received: *09/20/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3064161 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 599704-001 S,599704-001 SD,599704-003,599704-004,599704-005,599704-001,599704-002.

Lab Sample ID 599704-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 599704-001, -002, -003, -004, -005.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 599704

LT Environmental, Inc., Arvada, CO

Project Name: ADU-157

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

Date Received in Lab: Thu Sep-20-18 10:53 am
Report Date: 27-SEP-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	599704-001		599704-002		599704-003		599704-004		599704-005	
	Field Id:	FS05		SW11		SW12		SW13		FS06	
	Depth:	6- ft		4- ft		3- ft		4- ft		6.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-17-18 13:10		Sep-17-18 13:15		Sep-17-18 13:20		Sep-17-18 13:25		Sep-17-18 15:00	
BTEX by EPA 8021B	***Extracted:***	Sep-21-18 15:00		Sep-21-18 15:00		Sep-21-18 15:00		Sep-21-18 15:00		Sep-21-18 15:00	
	Analyzed:	Sep-22-18 01:54		Sep-22-18 04:16		Sep-22-18 04:37		Sep-22-18 06:17		Sep-22-18 06:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00404	0.00404	<0.00398	0.00398	<0.00400	0.00400	<0.00401	0.00401	<0.00402	0.00402
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300	***Extracted:***	Sep-24-18 09:30		Sep-24-18 09:30		Sep-24-18 09:30		Sep-24-18 10:00		Sep-24-18 10:00	
	Analyzed:	Sep-24-18 19:14		Sep-24-18 19:20		Sep-24-18 19:25		Sep-24-18 20:00		Sep-24-18 20:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		156	5.00	253	4.95	1270	24.9	16.1	1.98	94.3	1.98
TPH by SW8015 Mod	***Extracted:***	Sep-21-18 16:00		Sep-21-18 16:00		Sep-21-18 16:00		Sep-21-18 16:00		Sep-21-18 16:00	
	Analyzed:	Sep-22-18 09:16		Sep-22-18 09:35		Sep-21-18 22:34		Sep-21-18 22:54		Sep-21-18 23:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		112	15.0	569	15.0	<15.0	15.0	<15.0	15.0	28.9	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	41.2	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		112	15.0	610	15.0	<15.0	15.0	<15.0	15.0	28.9	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-001	Date Collected:	09.17.18 13.10	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.30	Basis:	Wet Weight
Seq Number:	3064303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**156**	5.00	mg/kg	09.24.18 19.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 16.00	Basis:	Wet Weight
Seq Number:	3064207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.22.18 09.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	**112**	15.0	mg/kg	09.22.18 09.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.22.18 09.16	U	1
Total TPH	PHC635	**112**	15.0	mg/kg	09.22.18 09.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.22.18 09.16	
o-Terphenyl	84-15-1	102	%	70-135	09.22.18 09.16	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-001	Date Collected:	09.17.18 13.10	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.21.18 15.00	Basis:	Wet Weight
Seq Number:	3064161				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.22.18 01.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.22.18 01.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	161	%	70-130	09.22.18 01.54	**
1,4-Difluorobenzene	540-36-3	91	%	70-130	09.22.18 01.54	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-002	Date Collected:	09.17.18 13.15	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.30	Basis:	Wet Weight
Seq Number:	3064303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**253**	4.95	mg/kg	09.24.18 19.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 16.00	Basis:	Wet Weight
Seq Number:	3064207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.22.18 09.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**569**	15.0	mg/kg	09.22.18 09.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**41.2**	15.0	mg/kg	09.22.18 09.35		1
Total TPH	PHC635	**610**	15.0	mg/kg	09.22.18 09.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.22.18 09.35	
o-Terphenyl	84-15-1	98	%	70-135	09.22.18 09.35	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-002	Date Collected:	09.17.18 13.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.21.18 15.00	Basis:	Wet Weight
Seq Number:	3064161				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.22.18 04.16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.22.18 04.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	09.22.18 04.16	
4-Bromofluorobenzene	460-00-4	162	%	70-130	09.22.18 04.16	**

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-003	Date Collected:	09.17.18 13.20	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.30	Basis:	Wet Weight
Seq Number:	3064303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	24.9	mg/kg	09.24.18 19.25		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 16.00	Basis:	Wet Weight
Seq Number:	3064207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.18 22.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.18 22.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.21.18 22.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.18 22.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	09.21.18 22.34	
o-Terphenyl	84-15-1	99	%	70-135	09.21.18 22.34	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-003	Date Collected:	09.17.18 13.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.21.18 15.00	Basis:	Wet Weight
Seq Number:	3064161				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.22.18 04.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.22.18 04.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	144	%	70-130	09.22.18 04.37	**
1,4-Difluorobenzene	540-36-3	75	%	70-130	09.22.18 04.37	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW13**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-004	Date Collected:	09.17.18 13.25	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 10.00	Basis:	Wet Weight
Seq Number:	3064310				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.1**	1.98	mg/kg	09.24.18 20.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 16.00	Basis:	Wet Weight
Seq Number:	3064207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.18 22.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.18 22.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.21.18 22.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.18 22.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.21.18 22.54	
o-Terphenyl	84-15-1	101	%	70-135	09.21.18 22.54	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**SW13**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-004	Date Collected:	09.17.18 13.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.21.18 15.00	Basis:	Wet Weight
Seq Number:	3064161				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.22.18 06.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.22.18 06.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	70-130	09.22.18 06.17	
4-Bromofluorobenzene	460-00-4	149	%	70-130	09.22.18 06.17	**

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-005	Date Collected:	09.17.18 15.00	Sample Depth:	6.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 10.00	Basis:	Wet Weight
Seq Number:	3064310				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**94.3**	1.98	mg/kg	09.24.18 20.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 16.00	Basis:	Wet Weight
Seq Number:	3064207				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.18 23.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**28.9**	15.0	mg/kg	09.21.18 23.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.21.18 23.14	U	1
Total TPH	PHC635	**28.9**	15.0	mg/kg	09.21.18 23.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.21.18 23.14	
o-Terphenyl	84-15-1	102	%	70-135	09.21.18 23.14	

Certificate of Analytical Results 599704

LT Environmental, Inc., Arvada, CO

ADU-157

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	09.20.18 10.53
Lab Sample Id:	599704-005	Date Collected:	09.17.18 15.00	Sample Depth:	6.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.21.18 15.00	Basis:	Wet Weight
Seq Number:	3064161				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.22.18 06.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.22.18 06.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	150	%	70-130	09.22.18 06.37	**
1,4-Difluorobenzene	540-36-3	89	%	70-130	09.22.18 06.37	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 599704

LT Environmental, Inc.

ADU-157

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064303 — Matrix: Solid — Date Prep: 09.24.18
MB Sample Id: 7662879-1-BLK — LCS Sample Id: 7662879-1-BKS — LCSD Sample Id: 7662879-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	259	104	90-110	0	20	mg/kg	09.24.18 16:34	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064310 — Matrix: Solid — Date Prep: 09.24.18
MB Sample Id: 7662884-1-BLK — LCS Sample Id: 7662884-1-BKS — LCSD Sample Id: 7662884-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	100	105	105	104	104	90-110	1	20	mg/kg	09.24.18 19:48	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064303 — Matrix: Soil — Date Prep: 09.24.18
Parent Sample Id: 599418-015 — MS Sample Id: 599418-015 S — MSD Sample Id: 599418-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	188	249	442	102	441	102	90-110	0	20	mg/kg	09.24.18 16:51	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064303 — Matrix: Soil — Date Prep: 09.24.18
Parent Sample Id: 599418-018 — MS Sample Id: 599418-018 S — MSD Sample Id: 599418-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.879	248	259	104	260	104	90-110	0	20	mg/kg	09.24.18 18:17	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064310 — Matrix: Soil — Date Prep: 09.24.18
Parent Sample Id: 599704-004 — MS Sample Id: 599704-004 S — MSD Sample Id: 599704-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.1	99.2	118	103	118	103	90-110	0	20	mg/kg	09.24.18 20:05	

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

QC Summary 599704

LT Environmental, Inc.

ADU-157

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3064310 Matrix: Soil Date Prep: 09.24.18
Parent Sample Id: 599709-004 MS Sample Id: 599709-004 S MSD Sample Id: 599709-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	452	99.6	531	79	533	81	90-110	0	20	mg/kg	09.24.18 21:25	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3064207 Matrix: Solid Date Prep: 09.21.18
MB Sample Id: 7662832-1-BLK LCS Sample Id: 7662832-1-BKS LCSD Sample Id: 7662832-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	935	94	982	98	70-135	5	20	mg/kg	09.21.18 16:37	
Diesel Range Organics (DRO)	<8.13	1000	924	92	986	99	70-135	6	20	mg/kg	09.21.18 16:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		123		126		70-135	%	09.21.18 16:37
o-Terphenyl	113		106		115		70-135	%	09.21.18 16:37

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3064207 Matrix: Soil Date Prep: 09.21.18
Parent Sample Id: 599709-002 MS Sample Id: 599709-002 S MSD Sample Id: 599709-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	907	91	917	92	70-135	1	20	mg/kg	09.21.18 17:56	
Diesel Range Organics (DRO)	<8.11	998	904	91	910	91	70-135	1	20	mg/kg	09.21.18 17:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		116		70-135	%	09.21.18 17:56
o-Terphenyl	105		104		70-135	%	09.21.18 17:56

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

QC Summary 599704

LT Environmental, Inc.

ADU-157

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

Seq Number: 3064161 Matrix: Solid Date Prep: 09.21.18

MB Sample Id: 7662850-1-BLK LCS Sample Id: 7662850-1-BKS LCSD Sample Id: 7662850-1-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	0.0892	89	0.0891	88	70-130	0	35	mg/kg	09.21.18 23:53	
Toluene	<0.00200	0.100	0.0865	87	0.0847	84	70-130	2	35	mg/kg	09.21.18 23:53	
Ethylbenzene	<0.00200	0.100	0.0969	97	0.0942	93	70-130	3	35	mg/kg	09.21.18 23:53	
m,p-Xylenes	<0.00401	0.200	0.207	104	0.199	99	70-130	4	35	mg/kg	09.21.18 23:53	
o-Xylene	<0.00200	0.100	0.105	105	0.101	100	70-130	4	35	mg/kg	09.21.18 23:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	76		88		82		70-130	%	09.21.18 23:53
4-Bromofluorobenzene	112		126		128		70-130	%	09.21.18 23:53

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

Seq Number: 3064161 Matrix: Soil Date Prep: 09.21.18

Parent Sample Id: 599704-001 MS Sample Id: 599704-001 S MSD Sample Id: 599704-001 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	0.0726	72	0.0688	69	70-130	5	35	mg/kg	09.22.18 00:33	X
Toluene	<0.00202	0.101	0.0504	50	0.0481	48	70-130	5	35	mg/kg	09.22.18 00:33	X
Ethylbenzene	<0.00202	0.101	0.0357	35	0.0336	34	70-130	6	35	mg/kg	09.22.18 00:33	X
m,p-Xylenes	<0.00404	0.202	0.0729	36	0.0698	35	70-130	4	35	mg/kg	09.22.18 00:33	X
o-Xylene	<0.00202	0.101	0.0380	38	0.0366	37	70-130	4	35	mg/kg	09.22.18 00:33	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		90		70-130	%	09.22.18 00:33
4-Bromofluorobenzene	140	**	152	**	70-130	%	09.22.18 00:33

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

XENCO LABORATORIES

Chain of Custody

Work Order No: 599704

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

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LTEnvironmental	Company Name:	XTO
Address:	3300 'A' Street Building 1, #103	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432)704-5178 Email:	ABaker@LTEnv.com	

Work Order Comments

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

Project Name:	ADU-157	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4778	Rush:	
Sampler's Name:	Fabian Urbarri	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	1.3	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	0.0	
Sample Custody Seals:	Yes No (N/A)	Total Containers:	5	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX (only BTEX)	TPH (DRO)(GRO)(MRO)	Chloride (300.00)
FS05	S	09/17/18	1310	6'	1	X	X	X
SW11	S	09/17/18	1315	4'	1	X	X	X
SW12	S	09/17/18	1420	3'	1	X	X	X
SW13	S	09/17/18	1425	4'	1	X	X	X
FS06	S	09/17/18	1500	6.5'	1	X	X	X
				FL	09/18/18			

Work Order Notes

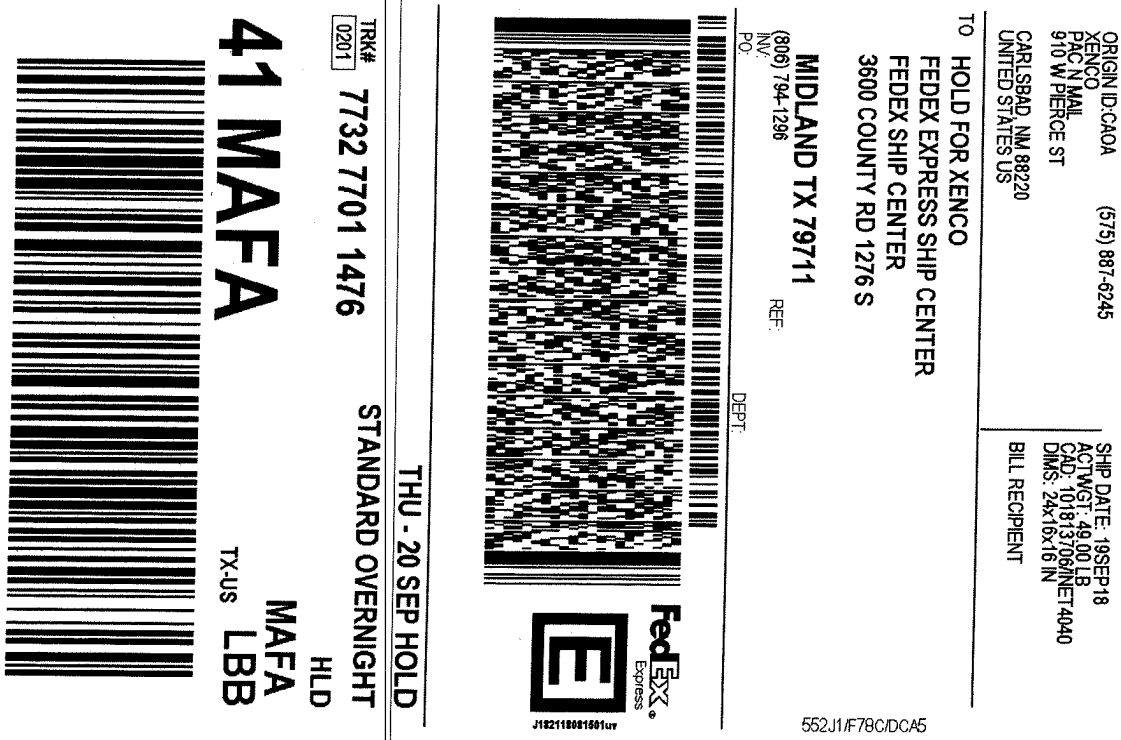
TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		09/18/18 17:06	2	9/20 1083	9/19/18 15:30
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: 09/20/2018 10:53:00 AM

Work Order #: 599704

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)?	1.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 09/20/2018

Checklist reviewed by: Jessica Kramer Date: 09/20/2018

Jessica Kramer

Analytical Report 623940

for

LT Environmental, Inc.

Project Manager: Ashley Ager

ADU 157

15-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

15-MAY-19

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

Reference: XENCO Report No(s): **623940**
ADU 157
Project Address: Delaware Basin

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623940. 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. 623940 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 623940

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS05A	S	05-07-19 15:10	2 ft	623940-001
SS05B	S	05-07-19 15:15	3 ft	623940-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU 157

Project ID:
Work Order Number(s): *623940*

Report Date: *15-MAY-19*
Date Received: *05/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089043 BTEX by EPA 8021B

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

Certificate of Analysis Summary 623940

LT Environmental, Inc., Arvada, CO

Project Name: ADU 157

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri May-10-19 11:00 am
Report Date: 15-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	623940-001		623940-002					
	Field Id:	SS05A		SS05B					
	Depth:	2- ft		3- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-07-19 15:10		May-07-19 15:15					
BTEX by EPA 8021B	***Extracted:***	May-14-19 08:45		May-14-19 08:45					
	Analyzed:	May-14-19 19:44		May-14-19 20:03					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200				
Toluene		<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402	<0.00399	0.00399				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200				
Total BTEX		<0.00201	0.00201	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	May-13-19 17:30		May-13-19 17:30					
	Analyzed:	May-13-19 19:05		May-13-19 19:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		138	4.95	164	4.99				
TPH by SW8015 Mod	***Extracted:***	May-11-19 08:00		May-11-19 08:00					
	Analyzed:	May-12-19 01:07		May-12-19 01:28					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 623940

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623940-001	Date Collected:	05.07.19 15.10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**138**	4.95	mg/kg	05.13.19 19.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 01.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 01.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 01.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 01.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 01.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.12.19 01.07	
o-Terphenyl	84-15-1	99	%	70-135	05.12.19 01.07	

Certificate of Analytical Results 623940

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623940-001	Date Collected:	05.07.19 15.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 08.45	Basis:	Wet Weight
Seq Number:	3089043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.19 19.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.19 19.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.14.19 19.44	
4-Bromofluorobenzene	460-00-4	127	%	70-130	05.14.19 19.44	

Certificate of Analytical Results 623940

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS05B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623940-002	Date Collected:	05.07.19 15.15	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**164**	4.99	mg/kg	05.13.19 19.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 01.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 01.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 01.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 01.28	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 01.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.12.19 01.28	
o-Terphenyl	84-15-1	98	%	70-135	05.12.19 01.28	

Certificate of Analytical Results 623940

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS05B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623940-002	Date Collected:	05.07.19 15.15	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 08.45	Basis:	Wet Weight
Seq Number:	3089043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.19 20.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 20.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.14.19 20.03	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.14.19 20.03	

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 623940

LT Environmental, Inc.

ADU 157

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Solid — Date Prep: 05.13.19
MB Sample Id: 7677764-1-BLK — LCS Sample Id: 7677764-1-BKS — LCSD Sample Id: 7677764-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	253	101	90-110	0	20	mg/kg	05.13.19 18:50	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623940-001 — MS Sample Id: 623940-001 S — MSD Sample Id: 623940-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	138	248	390	102	392	102	90-110	1	20	mg/kg	05.13.19 19:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623969-001 — MS Sample Id: 623969-001 S — MSD Sample Id: 623969-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	69.3	250	325	102	324	102	90-110	0	20	mg/kg	05.13.19 20:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3088794 — Matrix: Solid — Date Prep: 05.11.19
MB Sample Id: 7677672-1-BLK — LCS Sample Id: 7677672-1-BKS — LCSD Sample Id: 7677672-1-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	1040	104	1010	101	70-135	3	20	mg/kg	05.12.19 08:31	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1040	104	70-135	1	20	mg/kg	05.12.19 08:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		128		126		70-135	%	05.12.19 08:31
o-Terphenyl	94		125		121		70-135	%	05.12.19 08:31

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 623940

LT Environmental, Inc.

ADU 157

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3088794 | Matrix: Soil | Date Prep: 05.11.19
Parent Sample Id: 623497-021 | MS Sample Id: 623497-021 S | MSD Sample Id: 623497-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.98	997	981	97	974	97	70-135	1	20	mg/kg	05.11.19 22:06	
Diesel Range Organics (DRO)	27.6	997	1000	98	980	95	70-135	2	20	mg/kg	05.11.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.11.19 22:06
o-Terphenyl	116		116		70-135	%	05.11.19 22:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089043 | Matrix: Solid | Date Prep: 05.14.19
MB Sample Id: 7677856-1-BLK | LCS Sample Id: 7677856-1-BKS | LCSD Sample Id: 7677856-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0963	97	0.103	103	70-130	7	35	mg/kg	05.14.19 11:34	
Toluene	<0.00199	0.0994	0.0964	97	0.102	102	70-130	6	35	mg/kg	05.14.19 11:34	
Ethylbenzene	<0.00199	0.0994	0.107	108	0.112	112	70-130	5	35	mg/kg	05.14.19 11:34	
m,p-Xylenes	<0.00398	0.199	0.225	113	0.235	118	70-130	4	35	mg/kg	05.14.19 11:34	
o-Xylene	<0.00199	0.0994	0.110	111	0.114	114	70-130	4	35	mg/kg	05.14.19 11:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		94		93		70-130	%	05.14.19 11:34
4-Bromofluorobenzene	105		107		106		70-130	%	05.14.19 11:34

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089043 | Matrix: Soil | Date Prep: 05.14.19
Parent Sample Id: 623537-001 | MS Sample Id: 623537-001 S | MSD Sample Id: 623537-001 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	0.0735	73	0.0988	99	70-130	29	35	mg/kg	05.14.19 12:12	
Toluene	<0.00202	0.101	0.0671	66	0.0940	94	70-130	33	35	mg/kg	05.14.19 12:12	X
Ethylbenzene	<0.00202	0.101	0.0652	65	0.100	100	70-130	42	35	mg/kg	05.14.19 12:12	XF
m,p-Xylenes	<0.00403	0.202	0.137	68	0.209	105	70-130	42	35	mg/kg	05.14.19 12:12	XF
o-Xylene	<0.00202	0.101	0.0687	68	0.103	103	70-130	40	35	mg/kg	05.14.19 12:12	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		70-130	%	05.14.19 12:12
4-Bromofluorobenzene	113		110		70-130	%	05.14.19 12:12

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

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

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

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

Final 1.000

Chain of Custody

Work Order No: 623940

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:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	ADU 157	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4778	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.4/3.3	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS05A	S	5/7/19	1510	2'	1	X	X	X
SS05B	S	5/7/19	1515	3'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		5/8/19 1300	2		5/10/19 11:00
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/10/2019 11:00:00 AM

Work Order #: 623940

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/10/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/10/2019
Jessica Kramer

Analytical Report 623943

for

LT Environmental, Inc.

Project Manager: Ashley Ager

ADU 157

15-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

15-MAY-19

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

Reference: XENCO Report No(s): **623943**
ADU 157
Project Address: Delaware Basin

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623943. 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. 623943 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 623943

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS03A	S	05-07-19 14:25	2 ft	623943-001
SS03B	S	05-07-19 14:30	3 ft	623943-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU 157

Project ID:
Work Order Number(s): *623943*

Report Date: *15-MAY-19*
Date Received: *05/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089058 BTEX by EPA 8021B

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

Certificate of Analysis Summary 623943

LT Environmental, Inc., Arvada, CO

Project Name: ADU 157

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri May-10-19 11:00 am
Report Date: 15-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	623943-001		623943-002					
	Field Id:	SS03A		SS03B					
	Depth:	2- ft		3- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-07-19 14:25		May-07-19 14:30					
BTEX by EPA 8021B	***Extracted:***	May-14-19 15:00		May-14-19 15:00					
	Analyzed:	May-15-19 00:00		May-15-19 00:19					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00201	0.00201				
Toluene		<0.00198	0.00198	<0.00201	0.00201				
Ethylbenzene		<0.00198	0.00198	<0.00201	0.00201				
m,p-Xylenes		<0.00397	0.00397	<0.00402	0.00402				
o-Xylene		<0.00198	0.00198	<0.00201	0.00201				
Total Xylenes		<0.00198	0.00198	<0.00201	0.00201				
Total BTEX		<0.00198	0.00198	<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	May-13-19 17:30		May-13-19 17:30					
	Analyzed:	May-13-19 20:18		May-13-19 20:25					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<5.04	5.04	<4.98	4.98				
TPH by SW8015 Mod	***Extracted:***	May-11-19 08:00		May-11-19 08:00					
	Analyzed:	May-12-19 03:50		May-12-19 04:10					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 623943

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623943-001	Date Collected:	05.07.19 14.25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	05.13.19 20.18	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 03.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 03.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 03.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 03.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 03.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.12.19 03.50	
o-Terphenyl	84-15-1	98	%	70-135	05.12.19 03.50	

Certificate of Analytical Results 623943

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623943-001	Date Collected:	05.07.19 14.25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 15.00	Basis:	Wet Weight
Seq Number:	3089058				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.15.19 00.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.15.19 00.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.15.19 00.00	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.15.19 00.00	

Certificate of Analytical Results 623943

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS03B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623943-002	Date Collected:	05.07.19 14.30	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	05.13.19 20.25	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 04.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 04.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 04.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 04.10	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 04.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.12.19 04.10	
o-Terphenyl	84-15-1	101	%	70-135	05.12.19 04.10	

Certificate of Analytical Results 623943

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS03B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623943-002	Date Collected:	05.07.19 14.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 15.00	Basis:	Wet Weight
Seq Number:	3089058				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.15.19 00.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.15.19 00.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.15.19 00.19	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.15.19 00.19	

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 623943

LT Environmental, Inc.

ADU 157

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Solid — Date Prep: 05.13.19
MB Sample Id: 7677764-1-BLK — LCS Sample Id: 7677764-1-BKS — LCSD Sample Id: 7677764-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	253	101	90-110	0	20	mg/kg	05.13.19 18:50	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623940-001 — MS Sample Id: 623940-001 S — MSD Sample Id: 623940-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	138	248	390	102	392	102	90-110	1	20	mg/kg	05.13.19 19:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623969-001 — MS Sample Id: 623969-001 S — MSD Sample Id: 623969-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	69.3	250	325	102	324	102	90-110	0	20	mg/kg	05.13.19 20:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3088794 — Matrix: Solid — Date Prep: 05.11.19
MB Sample Id: 7677672-1-BLK — LCS Sample Id: 7677672-1-BKS — LCSD Sample Id: 7677672-1-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	1040	104	1010	101	70-135	3	20	mg/kg	05.12.19 08:31	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1040	104	70-135	1	20	mg/kg	05.12.19 08:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		128		126		70-135	%	05.12.19 08:31
o-Terphenyl	94		125		121		70-135	%	05.12.19 08:31

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 623943

LT Environmental, Inc.

ADU 157

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3088794 | Matrix: Soil | Date Prep: 05.11.19
Parent Sample Id: 623497-021 | MS Sample Id: 623497-021 S | MSD Sample Id: 623497-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.98	997	981	97	974	97	70-135	1	20	mg/kg	05.11.19 22:06	
Diesel Range Organics (DRO)	27.6	997	1000	98	980	95	70-135	2	20	mg/kg	05.11.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.11.19 22:06
o-Terphenyl	116		116		70-135	%	05.11.19 22:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089058 | Matrix: Solid | Date Prep: 05.14.19
MB Sample Id: 7677870-1-BLK | LCS Sample Id: 7677870-1-BKS | LCSD Sample Id: 7677870-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.110	110	0.111	111	70-130	1	35	mg/kg	05.14.19 21:49	
Toluene	<0.000455	0.0998	0.102	102	0.103	103	70-130	1	35	mg/kg	05.14.19 21:49	
Ethylbenzene	<0.000564	0.0998	0.107	107	0.107	107	70-130	0	35	mg/kg	05.14.19 21:49	
m,p-Xylenes	<0.00101	0.200	0.221	111	0.222	111	70-130	0	35	mg/kg	05.14.19 21:49	
o-Xylene	<0.000344	0.0998	0.107	107	0.109	109	70-130	2	35	mg/kg	05.14.19 21:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		102		103		70-130	%	05.14.19 21:49
4-Bromofluorobenzene	82		97		99		70-130	%	05.14.19 21:49

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089058 | Matrix: Soil | Date Prep: 05.14.19
Parent Sample Id: 623942-002 | MS Sample Id: 623942-002 S | MSD Sample Id: 623942-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000504	0.100	0.0963	96	0.0994	99	70-130	3	35	mg/kg	05.14.19 22:27	
Toluene	<0.000457	0.100	0.0873	87	0.0912	92	70-130	4	35	mg/kg	05.14.19 22:27	
Ethylbenzene	<0.000566	0.100	0.0884	88	0.0932	94	70-130	5	35	mg/kg	05.14.19 22:27	
m,p-Xylenes	<0.00102	0.200	0.181	91	0.193	97	70-130	6	35	mg/kg	05.14.19 22:27	
o-Xylene	0.000474	0.100	0.0879	87	0.0934	93	70-130	6	35	mg/kg	05.14.19 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	05.14.19 22:27
4-Bromofluorobenzene	101		102		70-130	%	05.14.19 22:27

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

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

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

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

Chain of Custody

Work Order No: 623943

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:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	ADU 157	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-4778	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	3.4/3.3	Temp Blank:	Yes (No)
Received Intact:	(Yes) No	Wet Ice:	(Yes) No
Cooler Custody Seals:	Yes No (N/A)	Thermometer ID	R8
Sample Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
		Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS03 A	S	5/7/19	1425	2'	1	X	X	X
SS03 B	S	5/7/19	1430	3'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Dadt Sun	Mael	5/8/19 1700	2		
3				4		
5				6		

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/10/2019 11:00:00 AM

Work Order #: 623943

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/10/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/10/2019
Jessica Kramer

Analytical Report 623942

for

LT Environmental, Inc.

Project Manager: Ashley Ager

ADU 157

17-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

17-MAY-19

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

Reference: XENCO Report No(s): **623942**
ADU 157
Project Address: Delaware Basin

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623942. 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. 623942 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 623942

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS04A	S	05-07-19 14:40	1 ft	623942-001
SS04B	S	05-07-19 14:45	2 ft	623942-002

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU 157

Project ID:
Work Order Number(s): *623942*

Report Date: *17-MAY-19*
Date Received: *05/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089058 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3089109 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 623942

LT Environmental, Inc., Arvada, CO

Project Name: ADU 157

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri May-10-19 11:00 am
Report Date: 17-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	623942-001		623942-002					
	Field Id:	SS04A		SS04B					
	Depth:	1- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-07-19 14:40		May-07-19 14:45					
BTEX by EPA 8021B	***Extracted:***	May-14-19 17:00		May-14-19 15:00					
	Analyzed:	May-14-19 23:48		May-14-19 23:41					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00202	0.00202				
Toluene		<0.00199	0.00199	<0.00202	0.00202				
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202				
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403				
o-Xylene		<0.00199	0.00199	<0.00202	0.00202				
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202				
Total BTEX		<0.00199	0.00199	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	May-13-19 17:30		May-13-19 17:30					
	Analyzed:	May-13-19 19:48		May-13-19 20:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		123	5.01	285	4.95				
TPH by SW8015 Mod	***Extracted:***	May-11-19 08:00		May-11-19 08:00					
	Analyzed:	May-12-19 03:09		May-12-19 03:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<14.9	14.9				
Diesel Range Organics (DRO)		<14.9	14.9	<14.9	14.9				
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<14.9	14.9				
Total TPH		<14.9	14.9	<14.9	14.9				
Total GRO-DRO		<14.9	14.9	<14.9	14.9				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 623942

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623942-001	Date Collected:	05.07.19 14.40	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**123**	5.01	mg/kg	05.13.19 19.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.12.19 03.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.12.19 03.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.12.19 03.09	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.12.19 03.09	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	05.12.19 03.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.12.19 03.09	
o-Terphenyl	84-15-1	99	%	70-135	05.12.19 03.09	

Certificate of Analytical Results 623942

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623942-001	Date Collected:	05.07.19 14.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.14.19 23.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.14.19 23.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.14.19 23.48	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.14.19 23.48	

Certificate of Analytical Results 623942

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623942-002	Date Collected:	05.07.19 14.45	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**285**	4.95	mg/kg	05.13.19 20.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.12.19 03.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.12.19 03.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.12.19 03.30	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.12.19 03.30	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	05.12.19 03.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.12.19 03.30	
o-Terphenyl	84-15-1	98	%	70-135	05.12.19 03.30	

Certificate of Analytical Results 623942

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04B**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623942-002	Date Collected:	05.07.19 14.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 15.00	Basis:	Wet Weight
Seq Number:	3089058				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.14.19 23.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.19 23.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.14.19 23.41	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.14.19 23.41	

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 623942

LT Environmental, Inc.

ADU 157

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Solid — Date Prep: 05.13.19
MB Sample Id: 7677764-1-BLK — LCS Sample Id: 7677764-1-BKS — LCSD Sample Id: 7677764-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	253	101	90-110	0	20	mg/kg	05.13.19 18:50	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623940-001 — MS Sample Id: 623940-001 S — MSD Sample Id: 623940-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	138	248	390	102	392	102	90-110	1	20	mg/kg	05.13.19 19:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623969-001 — MS Sample Id: 623969-001 S — MSD Sample Id: 623969-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	69.3	250	325	102	324	102	90-110	0	20	mg/kg	05.13.19 20:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3088794 — Matrix: Solid — Date Prep: 05.11.19
MB Sample Id: 7677672-1-BLK — LCS Sample Id: 7677672-1-BKS — LCSD Sample Id: 7677672-1-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	1040	104	1010	101	70-135	3	20	mg/kg	05.12.19 08:31	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1040	104	70-135	1	20	mg/kg	05.12.19 08:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		128		126		70-135	%	05.12.19 08:31
o-Terphenyl	94		125		121		70-135	%	05.12.19 08:31

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 623942

LT Environmental, Inc.

ADU 157

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3088794 | Matrix: Soil | Date Prep: 05.11.19
Parent Sample Id: 623497-021 | MS Sample Id: 623497-021 S | MSD Sample Id: 623497-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.98	997	981	97	974	97	70-135	1	20	mg/kg	05.11.19 22:06	
Diesel Range Organics (DRO)	27.6	997	1000	98	980	95	70-135	2	20	mg/kg	05.11.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.11.19 22:06
o-Terphenyl	116		116		70-135	%	05.11.19 22:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089058 | Matrix: Solid | Date Prep: 05.14.19
MB Sample Id: 7677870-1-BLK | LCS Sample Id: 7677870-1-BKS | LCSD Sample Id: 7677870-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.110	110	0.111	111	70-130	1	35	mg/kg	05.14.19 21:49	
Toluene	<0.000455	0.0998	0.102	102	0.103	103	70-130	1	35	mg/kg	05.14.19 21:49	
Ethylbenzene	<0.000564	0.0998	0.107	107	0.107	107	70-130	0	35	mg/kg	05.14.19 21:49	
m,p-Xylenes	<0.00101	0.200	0.221	111	0.222	111	70-130	0	35	mg/kg	05.14.19 21:49	
o-Xylene	<0.000344	0.0998	0.107	107	0.109	109	70-130	2	35	mg/kg	05.14.19 21:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		102		103		70-130	%	05.14.19 21:49
4-Bromofluorobenzene	82		97		99		70-130	%	05.14.19 21:49

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089109 | Matrix: Solid | Date Prep: 05.14.19
MB Sample Id: 7677912-1-BLK | LCS Sample Id: 7677912-1-BKS | LCSD Sample Id: 7677912-1-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	0.0998	0.106	106	0.100	100	70-130	6	35	mg/kg	05.14.19 21:18	
Toluene	<0.00200	0.0998	0.101	101	0.0985	99	70-130	3	35	mg/kg	05.14.19 21:18	
Ethylbenzene	<0.00200	0.0998	0.108	108	0.108	108	70-130	0	35	mg/kg	05.14.19 21:18	
m,p-Xylenes	<0.00399	0.200	0.225	113	0.226	113	70-130	0	35	mg/kg	05.14.19 21:18	
o-Xylene	<0.00200	0.0998	0.111	111	0.111	111	70-130	0	35	mg/kg	05.14.19 21:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		96		95		70-130	%	05.14.19 21:18
4-Bromofluorobenzene	106		105		109		70-130	%	05.14.19 21:18

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

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

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

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

QC Summary 623942

LT Environmental, Inc.

ADU 157

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089058 | Matrix: Soil | Date Prep: 05.14.19
Parent Sample Id: 623942-002 | MS Sample Id: 623942-002 S | MSD Sample Id: 623942-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000504	0.100	0.0963	96	0.0994	99	70-130	3	35	mg/kg	05.14.19 22:27	
Toluene	<0.000457	0.100	0.0873	87	0.0912	92	70-130	4	35	mg/kg	05.14.19 22:27	
Ethylbenzene	<0.000566	0.100	0.0884	88	0.0932	94	70-130	5	35	mg/kg	05.14.19 22:27	
m,p-Xylenes	<0.00102	0.200	0.181	91	0.193	97	70-130	6	35	mg/kg	05.14.19 22:27	
o-Xylene	0.000474	0.100	0.0879	87	0.0934	93	70-130	6	35	mg/kg	05.14.19 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	05.14.19 22:27
4-Bromofluorobenzene	101		102		70-130	%	05.14.19 22:27

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089109 | Matrix: Soil | Date Prep: 05.14.19
Parent Sample Id: 623941-001 | MS Sample Id: 623941-001 S | MSD Sample Id: 623941-001 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	0.0927	93	0.0919	92	70-130	1	35	mg/kg	05.14.19 21:56	
Toluene	<0.00199	0.0994	0.0906	91	0.0893	89	70-130	1	35	mg/kg	05.14.19 21:56	
Ethylbenzene	<0.00199	0.0994	0.0970	98	0.0954	96	70-130	2	35	mg/kg	05.14.19 21:56	
m,p-Xylenes	<0.00398	0.199	0.203	102	0.200	100	70-130	1	35	mg/kg	05.14.19 21:56	
o-Xylene	<0.00199	0.0994	0.0997	100	0.0980	98	70-130	2	35	mg/kg	05.14.19 21:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		97		70-130	%	05.14.19 21:56
4-Bromofluorobenzene	112		112		70-130	%	05.14.19 21:56

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

Chain of Custody

Work Order No: 623942

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:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178 Email:		Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	ADU 157	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP 4778	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.4/3.3	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS04A	S	5/7/19	1440	1'	1	X	X	X
SS04B	S	5/7/19	1445	2'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		5/8/19 1700	2		5/10/19 1100
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/10/2019 11:00:00 AM

Work Order #: 623942

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/10/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/10/2019

Jessica Kramer

Analytical Report 623941

for

LT Environmental, Inc.

Project Manager: Ashley Ager

ADU 157

17-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

17-MAY-19

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

Reference: XENCO Report No(s): **623941**
ADU 157
Project Address: Delaware Basin

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623941. 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. 623941 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 623941

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS04C	S	05-07-19 14:55	3 ft	623941-001
SS04D	S	05-07-19 15:00	4 ft	623941-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU 157

Project ID:
Work Order Number(s): *623941*

Report Date: *17-MAY-19*
Date Received: *05/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089109 BTEX by EPA 8021B

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

Certificate of Analysis Summary 623941

LT Environmental, Inc., Arvada, CO

Project Name: ADU 157

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Fri May-10-19 11:00 am
Report Date: 17-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	623941-001		623941-002					
	Field Id:	SS04C		SS04D					
	Depth:	3- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-07-19 14:55		May-07-19 15:00					
BTEX by EPA 8021B	***Extracted:***	May-14-19 17:00		May-14-19 17:00					
	Analyzed:	May-14-19 23:10		May-14-19 23:29					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00202	0.00202				
Toluene		<0.00200	0.00200	<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202				
m,p-Xylenes		<0.00401	0.00401	<0.00403	0.00403				
o-Xylene		<0.00200	0.00200	<0.00202	0.00202				
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202				
Total BTEX		<0.00200	0.00200	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	May-13-19 17:30		May-13-19 17:30					
	Analyzed:	May-13-19 19:34		May-13-19 19:41					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		469	5.04	508	4.98				
TPH by SW8015 Mod	***Extracted:***	May-11-19 08:00		May-11-19 08:00					
	Analyzed:	May-12-19 02:29		May-12-19 02:49					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 623941

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04C**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623941-001	Date Collected:	05.07.19 14.55	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**469**	5.04	mg/kg	05.13.19 19.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 02.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 02.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 02.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 02.29	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 02.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.12.19 02.29	
o-Terphenyl	84-15-1	102	%	70-135	05.12.19 02.29	

Certificate of Analytical Results 623941

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04C**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623941-001	Date Collected:	05.07.19 14.55	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.19 23.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 23.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.14.19 23.10	
4-Bromofluorobenzene	460-00-4	118	%	70-130	05.14.19 23.10	

Certificate of Analytical Results 623941

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04D**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623941-002	Date Collected:	05.07.19 15.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.30	Basis:	Wet Weight
Seq Number:	3088955				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**508**	4.98	mg/kg	05.13.19 19.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.19 08.00	Basis:	Wet Weight
Seq Number:	3088794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 02.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 02.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 02.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 02.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 02.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.12.19 02.49	
o-Terphenyl	84-15-1	98	%	70-135	05.12.19 02.49	

Certificate of Analytical Results 623941

LT Environmental, Inc., Arvada, CO

ADU 157

Sample Id:	**SS04D**	Matrix:	Soil	Date Received:	05.10.19 11.00
Lab Sample Id:	623941-002	Date Collected:	05.07.19 15.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.19 17.00	Basis:	Wet Weight
Seq Number:	3089109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.14.19 23.29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.19 23.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.14.19 23.29	
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.14.19 23.29	

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 623941

LT Environmental, Inc.

ADU 157

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Solid — Date Prep: 05.13.19
MB Sample Id: 7677764-1-BLK — LCS Sample Id: 7677764-1-BKS — LCSD Sample Id: 7677764-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	253	101	90-110	0	20	mg/kg	05.13.19 18:50	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623940-001 — MS Sample Id: 623940-001 S — MSD Sample Id: 623940-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	138	248	390	102	392	102	90-110	1	20	mg/kg	05.13.19 19:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3088955 — Matrix: Soil — Date Prep: 05.13.19
Parent Sample Id: 623969-001 — MS Sample Id: 623969-001 S — MSD Sample Id: 623969-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	69.3	250	325	102	324	102	90-110	0	20	mg/kg	05.13.19 20:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3088794 — Matrix: Solid — Date Prep: 05.11.19
MB Sample Id: 7677672-1-BLK — LCS Sample Id: 7677672-1-BKS — LCSD Sample Id: 7677672-1-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	1040	104	1010	101	70-135	3	20	mg/kg	05.12.19 08:31	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1040	104	70-135	1	20	mg/kg	05.12.19 08:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		128		126		70-135	%	05.12.19 08:31
o-Terphenyl	94		125		121		70-135	%	05.12.19 08:31

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 623941

LT Environmental, Inc.

ADU 157

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3088794 | Matrix: Soil | Date Prep: 05.11.19
Parent Sample Id: 623497-021 | MS Sample Id: 623497-021 S | MSD Sample Id: 623497-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.98	997	981	97	974	97	70-135	1	20	mg/kg	05.11.19 22:06	
Diesel Range Organics (DRO)	27.6	997	1000	98	980	95	70-135	2	20	mg/kg	05.11.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.11.19 22:06
o-Terphenyl	116		116		70-135	%	05.11.19 22:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089109 | Matrix: Solid | Date Prep: 05.14.19
MB Sample Id: 7677912-1-BLK | LCS Sample Id: 7677912-1-BKS | LCSD Sample Id: 7677912-1-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	0.0998	0.106	106	0.100	100	70-130	6	35	mg/kg	05.14.19 21:18	
Toluene	<0.00200	0.0998	0.101	101	0.0985	99	70-130	3	35	mg/kg	05.14.19 21:18	
Ethylbenzene	<0.00200	0.0998	0.108	108	0.108	108	70-130	0	35	mg/kg	05.14.19 21:18	
m,p-Xylenes	<0.00399	0.200	0.225	113	0.226	113	70-130	0	35	mg/kg	05.14.19 21:18	
o-Xylene	<0.00200	0.0998	0.111	111	0.111	111	70-130	0	35	mg/kg	05.14.19 21:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		96		95		70-130	%	05.14.19 21:18
4-Bromofluorobenzene	106		105		109		70-130	%	05.14.19 21:18

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089109 | Matrix: Soil | Date Prep: 05.14.19
Parent Sample Id: 623941-001 | MS Sample Id: 623941-001 S | MSD Sample Id: 623941-001 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	0.0927	93	0.0919	92	70-130	1	35	mg/kg	05.14.19 21:56	
Toluene	<0.00199	0.0994	0.0906	91	0.0893	89	70-130	1	35	mg/kg	05.14.19 21:56	
Ethylbenzene	<0.00199	0.0994	0.0970	98	0.0954	96	70-130	2	35	mg/kg	05.14.19 21:56	
m,p-Xylenes	<0.00398	0.199	0.203	102	0.200	100	70-130	1	35	mg/kg	05.14.19 21:56	
o-Xylene	<0.00199	0.0994	0.0997	100	0.0980	98	70-130	2	35	mg/kg	05.14.19 21:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		97		70-130	%	05.14.19 21:56
4-Bromofluorobenzene	112		112		70-130	%	05.14.19 21:56

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 623941

Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	ADU 157	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP 4778	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.4/3.3	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS04C	S	5/7/19	1455	3'	1	X	X	X
SS04D	S	5/7/19	1500	4'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			5/8/19 1700	2		5/10/19 1100
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/10/2019 11:00:00 AM

Work Order #: 623941

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/10/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/10/2019
Jessica Kramer

Analytical Report 638613

for

LT Environmental, Inc.

Project Manager: Dan Moir

ADU 157 (2RP-4778)

012918118

08-OCT-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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

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

08-OCT-19

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

Reference: XENCO Report No(s): **638613**
ADU 157 (2RP-4778)
Project Address: Carlsbad, NM

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) 638613. 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. 638613 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 638613

LT Environmental, Inc., Arvada, CO

ADU 157 (2RP-4778)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WS01	W	10-01-19 11:20		638613-001

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: ADU 157 (2RP-4778)

Project ID: *012918118*
Work Order Number(s): *638613*

Report Date: *08-OCT-19*
Date Received: *10/01/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 638613

LT Environmental, Inc., Arvada, CO

Project Name: ADU 157 (2RP-4778)

Project Id: 012918118
Contact: Dan Moir
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-01-19 12:55 pm
Report Date: 08-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	638613-001					
	Field Id:	WS01					
	Depth:						
	Matrix:	WATER					
	Sampled:	Oct-01-19 11:20					
TDS by SM2540C **SUB: T104704400-19-19**	***Extracted:***						
	Analyzed:	Oct-03-19 15:00					
	Units/RL:	mg/L	RL				
Total Dissolved Solids		11600	5.00				

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 638613

LT Environmental, Inc., Arvada, CO

ADU 157 (2RP-4778)

Sample Id: **WS01** Matrix: Water Date Received:10.01.19 12.55

Lab Sample Id: 638613-001 Date Collected: 10.01.19 11.20

Analytical Method: TDS by SM2540C

Tech: SPC % Moisture:

Analyst: SPC

Seq Number: 3103415 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**11600**	5.00	mg/L	10.03.19 15.00		1

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 638613

LT Environmental, Inc.

ADU 157 (2RP-4778)

Analytical Method: **TDS by SM2540C**
Seq Number: 3103415 Matrix: Water
MB Sample Id: 3103415-1-BLK LCS Sample Id: 3103415-1-BKS LCSD Sample Id: 3103415-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	<5.00	1000	985	99	986	99	80-120	0	10	mg/L	10.03.19 15:00	

Analytical Method: **TDS by SM2540C**
Seq Number: 3103415 Matrix: Water
Parent Sample Id: 638660-003 MD Sample Id: 638660-003 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	1130	1130	0	10	mg/L	10.03.19 15:00	

Analytical Method: **TDS by SM2540C**
Seq Number: 3103415 Matrix: Water
Parent Sample Id: 638845-007 MD Sample Id: 638845-007 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	1710	1720	1	10	mg/L	10.03.19 15:00	

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 638613

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental Inc.	Company Name:	XTO Energy
Address:	3300 North A. Street	Address:	3104 Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432. 236. 5849	Email:	bbelill@ltenv.com

Work Order Comments

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

Project Name:	ADU 157 (RAP-4778)	Turn Around	
Project Number:	Well # CP00851	Routine	☒
Project Location	Carlsbad, NM	Rush:	
Sampler's Name:	Ben Belill	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	4.0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TDS
	WS01	W	10/1/19	11:20	—	1		X

ANALYSIS REQUEST

Preservative Codes

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

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

Sample Comments

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		10/1/19@1255	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **49088**

Date/Time: 10/01/19 14:56
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776429985847

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
638613-001	W	WS01	10/01/19 11:20	SM2540C	TDS by SM2540C	10/07/19	10/08/19	JKR	TDS	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/01/2019

Received By: Brianna Teel

Date Received: 10/02/2019 11:14

Cooler Temperature: 2.1

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 49088

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

Sent By: Elizabeth McClellan **Date Sent:** 10/01/2019 02:56 PM

Received By: Brianna Teel **Date Received:** 10/02/2019 11:14 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 10/02/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/01/2019 12:55:00 PM

Work Order #: 638613

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**Yes**	
#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: 10/01/2019

Checklist reviewed by: Jessica Kramer Date: 10/03/2019

Jessica Kramer

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 5000
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/20/2021