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

March 25, 2020

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

RE: Closure Request
Thriller BWL Federal 001H
Remediation Permit Number 2RP-4915
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and excavation activities at the Thriller BWL Federal 001H (Site) in Unit A, Section 32, Township 25 South, Range 29 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 July 25, 2018, a flex pipe flow line was damaged from rubbing and flexing against a rock, resulting in the release of crude oil and produced water. Approximately 3 barrels (bbls) of crude oil and 51 bbls of produced water were released onto the surface of the well pad. A vacuum truck recovered 3 bbls of crude oil and 47 bbls of produced water; approximately 4 bbls of released fluids were unrecovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on August 3, 2018, and was assigned Remediation Permit (RP) Number 2RP-4915 (Attachment 1). The location referenced on the initial C-141 of Unit P, Section 30, Township 25 South, Range 29 East is the location of the well associated with release. However, the surface location of the release is in Unit A, Section 32, Township 25 South, Range 29 East, which is the location referenced on the final C-141 and

attached figures. Based on the site assessment activities and results of the soil sampling events, XTO is requesting no further action for this release.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 of the NMAC. Depth to groundwater at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 320532104001701, located approximately 2,056 feet west of the Site. The water well has a depth to groundwater of 98 feet and a total depth 128 feet. Ground surface elevation at the water well location is 2,988 feet above mean sea level (AMSL), which is approximately 4 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 1,930 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium-potential karst area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

On June 26, 2019, LTE personnel arrived at the Site to evaluate the release extent. Site inspection and remediation efforts were postponed due to ongoing operations and drilling activities at the Site, near the release area. Remediation activity restrictions were imposed due to safety concerns at the Site.

LTE returned to the Site during February 2020, upon completion of drilling and operations activities. Due to the recent drilling and construction activities, no visible indications of the

release were identified. Potholes were advanced via backhoe at six locations within and around the documented release area to assess for potential soil impacts. Potholes PH01 through PH06 were advanced to a depth of 5 feet bgs. Three delineation soil samples were collected from each pothole from depths ranging from 1 foot to 5 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The pothole delineation soil sample locations are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by field screening activities for the delineation soil samples. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated to a depth of 5 feet bgs, in the area around pothole PH01. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floors of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 5 feet bgs. Composite soil samples FS01 and FS02 were collected from the floor of the excavation from a depth of 5 feet bgs. The excavation extent and excavation soil sample locations are depicted on Figure 3.

The delineation and excavation 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 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. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The excavation measured approximately 400 square feet in area and was completed to a depth of 5 feet bgs. A total of approximately 80 cubic yards of impacted soil were removed from the excavations. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples, collected from potholes PH02 through PH06, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results indicated that TPH and/or GRO/DRO concentrations exceeded the Closure Criteria in delineation soil samples PH01 and PH01A,

collected at depths of 1 foot and 3 feet bgs, respectively. Subsequent delineation sample PH01B, collected at 5 feet bgs, was compliant with the Closure Criteria.

Impacted soil was excavated from the area around pothole PH01. Laboratory analytical results for excavation soil samples SW01, SW02, FS01, and FS02 indicated that BTEX, GRP/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the laboratory analytical results for the delineation and excavation soil samples, no further remediation was required. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and soil sampling activities were completed within the release area, to assess for soil impacts resulting from the July 25, 2018, release of crude oil and produced water at the Site. Based on field screening activities and soil sample laboratory analytical results from the site assessment activities, impacted soil was excavated. Laboratory analytical results for the excavation soil samples indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria, and no further remediation was required.

The majority of the release was recovered during initial response activities. 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-4915. XTO backfilled the excavation with material purchased locally and recontoured 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
Ryan Mann, State Land Office
Mike Bratcher, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-4915)
Attachment 2	Lithologic / Soil Sample Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES

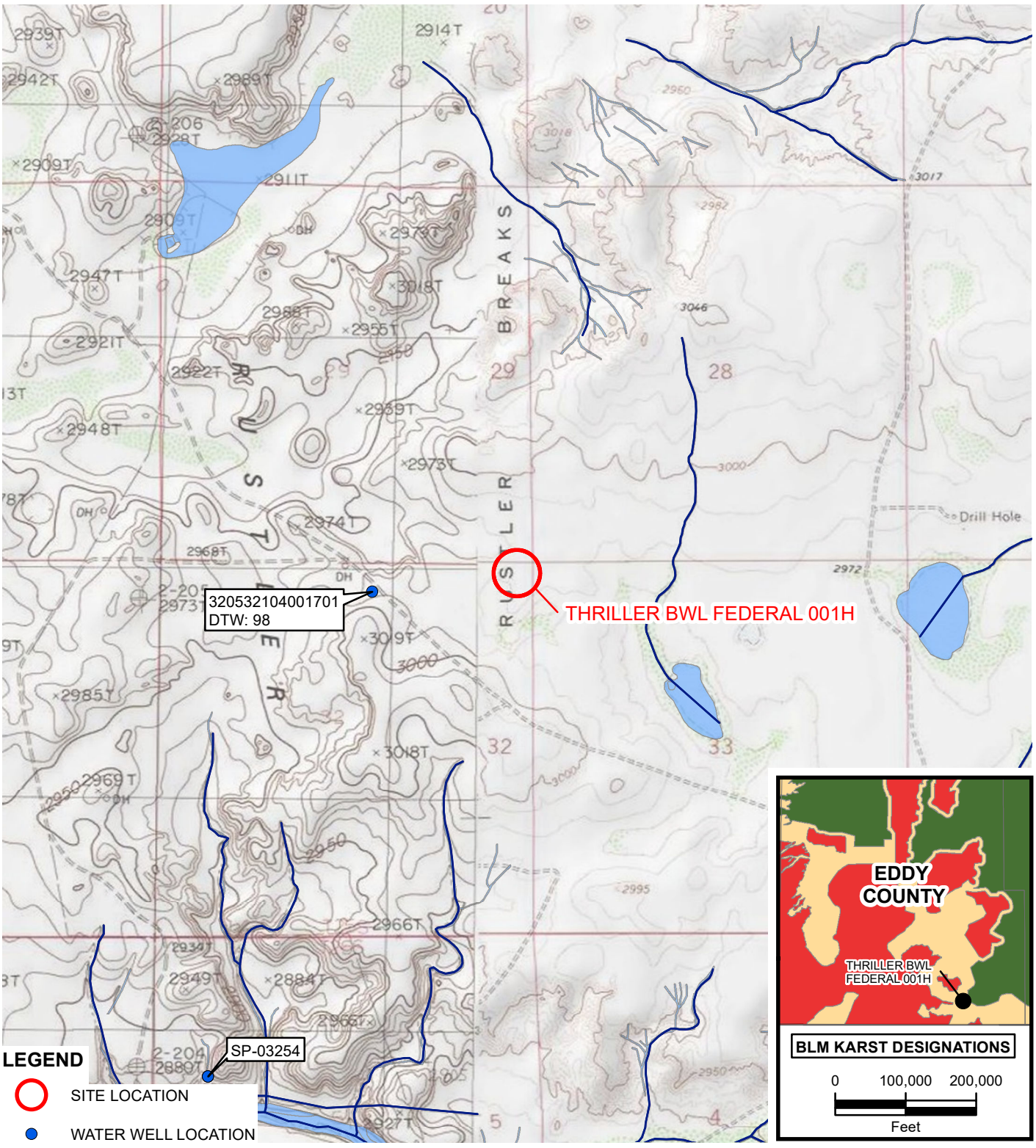
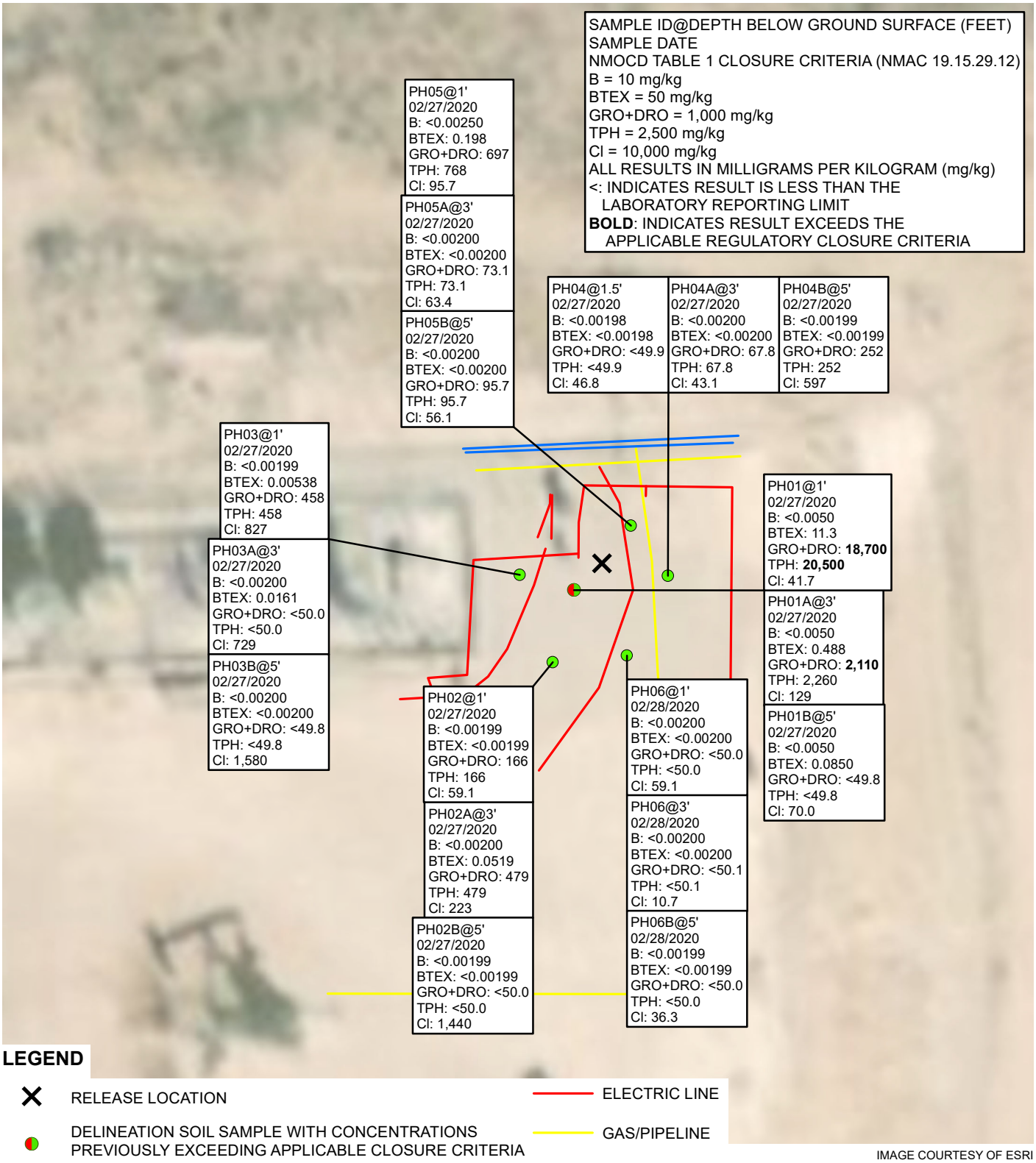


FIGURE 1
SITE LOCATION MAP
THRILLER BWL FEDERAL 001H
UNIT A SEC 32 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

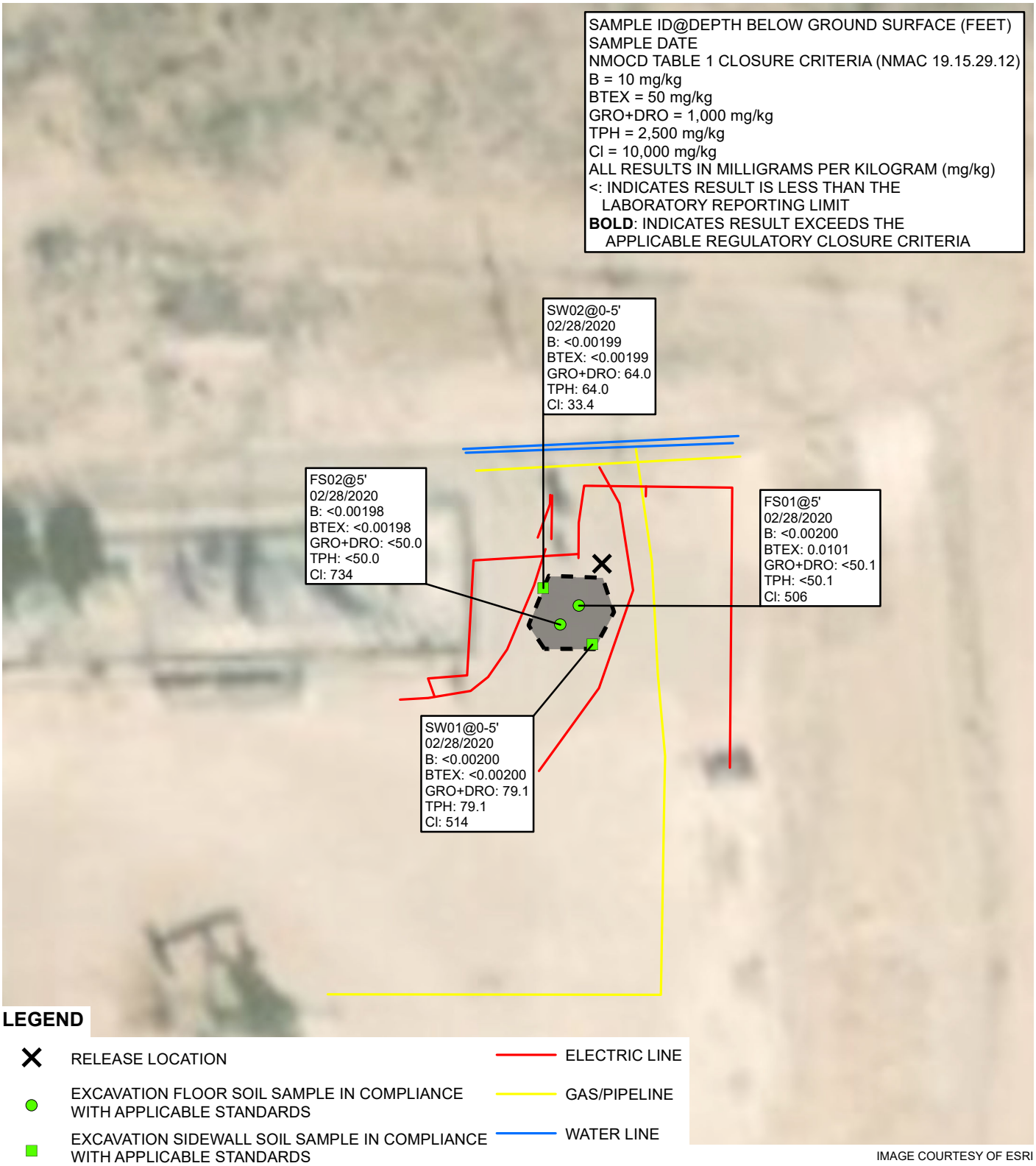
P:\XTO Energy\GIS\MXD\012918162_THRILLER BWL_FEDERAL 001H_4915\012918162_FIG01_RECEPTOR_SL_2020.mxd



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-4915

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
THRILLER BWL FEDERAL 001H
UNIT A SEC 32 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918162_THRILLER BWL_FEDERAL 001H_4915\012918162_FIG02_DELINEATION_2020.mxd



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-4915

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
THRILLER BWL FEDERAL 001H
UNIT A SEC 32 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918162_THRILLER BWL_FEDERAL 001H_4915\012918162_FIG03_EXCAVATION_2020.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

THRILLER BWL FEDERAL 001H
REMEDIATION PERMIT NUMBER 2RP-4915
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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**
PH01	1	02/27/2020	<0.00500	0.424	1.63	9.23	11.3	2,310	16,400	1,740	**18,700**	**20,500**	41.7
PH01A	3	02/27/2020	<0.00500	0.00950	0.0705	0.408	0.488	115	1,990	151	**2,110**	2,260	129
PH01B	5	02/27/2020	<0.00500	<0.00500	<0.00500	0.0850	0.0850	<49.8	<49.8	<49.8	<49.8	<49.8	70.0
PH02	1	02/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	166	<50.1	166	166	59.1
PH02A	3	02/27/2020	<0.00200	<0.00200	0.0112	0.0407	0.0519	<50.1	479	<50.1	479	479	223
PH02B	5	02/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,440
PH03	1	02/27/2020	<0.00199	<0.00199	<0.00199	0.00538	0.00538	<50.0	458	<50.0	458	458	827
PH03A	3	02/27/2020	<0.00200	<0.00200	<0.00200	0.0161	0.0161	<50.0	<50.0	<50.0	<50.0	<50.0	729
PH03B	5	02/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	1,580
PH04	1.5	02/27/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	46.8
PH04A	3	02/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	67.8	<50.0	67.8	67.8	43.1
PH04B	5	02/27/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	252	<49.9	252	252	597
PH05	1	02/27/2020	<0.00250	<0.00250	0.0181	0.180	0.198	<50.1	697	71.2	697	768	95.7
PH05A	3	02/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	73.1	<50.2	73.1	73.1	63.4
PH05B	5	02/27/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	95.7	<49.9	95.7	95.7	56.1
PH06	1	02/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	59.1
PH06A	3	02/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	10.7
PH06B	5	02/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	36.3

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TABLE 1
SOIL ANALYTICAL RESULTS

THRILLER BWL FEDERAL 001H
REMEDIATION PERMIT NUMBER 2RP-4915
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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**
FS01	5	02/28/2020	<0.00200	<0.00200	<0.00200	0.0101	0.0101	<50.1	<50.1	<50.1	<50.1	<50.1	506
FS02	5	02/28/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	734
SW01	0 - 5	02/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	79.1	<50.1	79.1	79.1	514
SW02	0 - 5	02/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	64.0	<50.1	64.0	64.0	33.4

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

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ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4915)

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy OGRID: 5380	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Thriller BWL Federal 001H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	Surface location of release is on State land. See attached email.	API No: 30-015-43909

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	30	25S	29E	354	South	660	East	Eddy

Surface location of release is in Unit A, Sec 32, T25S, R29E

Latitude 32.093055 **Longitude** -103.998609 NAD83

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 51bbl produced water, 3bbl oil	Volume Recovered 47bbl produced water, 3bbl oil
Source of Release Flow line	Date and Hour of Occurrence 7/25/2018, AM	Date and Hour of Discovery 7/25/2018, 8:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Maria Pruett (NMOCD), Jim Amos and Shelly Tucker (BLM), Ryan Mann (SLO)	
By Whom? Jake Foust	Date and Hour: 7/26/2018, 1:24 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.*
Release was from a flex pipe flowline rubbing and flexing against a rock. The flowline was repaired and is scheduled to be buried to prevent further damage.

Describe Area Affected and Cleanup Action Taken.*
Fluid impacted pad surface, flowing south toward the center of the location. All fluid stayed on pad and there was no impact to the pasture. Vacuum trucks were dispatched and recovered 50bbl of standing fluid. 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:

Printed Name: Kyle Littrell

Title: Environmental Coordinator

E-mail Address: Kyle_Littrell@xtoenergy.com

Date: 08-03-18 Phone: 432-221-7331

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Maria Pruett

Approval Date: 08/11/18 Expiration Date: N/A

Conditions of Approval:
Confirm location

Attached ☐
2RP-4915

* Attach Additional Sheets If Necessary

A#: pMAP1822341664
I#: nMAP1822341832

Littrell, Kyle

From: Ruth, Amy
Sent: Monday, August 13, 2018 5:14 PM
To: Pruett, Maria, EMNRD; Bratcher, Mike, EMNRD; Mann, Ryan; Jim Amos; Tucker, Shelly (stucker@blm.gov)
Cc: Littrell, Kyle; Sanders, Toady; McSpadden, Wes; Foust, Bryan
Subject: RE: 2RP-4915 Initial C-141 - Thriller BWL Federal 1H (API 30-015-43909)

Good afternoon, Ms. Pruett,

Per our conversation this afternoon, we are confirming that the referenced release point occurred at the provided GPS coordinates (32.093055 N, -103.998609 W), though the released fluids came from the referenced well and API.

Again, please call me with any questions and have a good week.

Respectfully,

Amy C. Ruth
Delaware Basin Division
Environmental Coordinator
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380

From: Pruett, Maria, EMNRD [mailto:Maria.Pruett@state.nm.us]
Sent: Saturday, August 11, 2018 11:46 AM
To: Ruth, Amy; Bratcher, Mike, EMNRD; Mann, Ryan; Jim Amos; Tucker, Shelly (stucker@blm.gov)
Cc: Littrell, Kyle; Sanders, Toady; McSpadden, Wes; Foust, Bryan
Subject: 2RP-4915 Initial C-141 - Thriller BWL Federal 1H (API 30-015-43909)

Hello Ms. Ruth,

OCD has received your initial C-141, thank you! This has been assigned:2RP-4915.

Note there is an action item: this permit will expire Tuesday, August 14 without confirmation of location.
Please let me know if you have any questions.

Best Regards,

Maria Pruett

Environmental Specialist

N.M. Oil Conservation Division
District 2
811 S. 1st Street
Artesia, NM 88210
Desk: 575 748-1283 X 101
Cell: 575 840-5963
Fax: 575748-9720

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Wednesday, August 8, 2018 1:38 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Pruett, Maria, EMNRD <Maria.Pruett@state.nm.us>; Mann, Ryan <rmann@slo.state.nm.us>; Jim Amos <jamos@blm.gov>; Tucker, Shelly (stucker@blm.gov) <stucker@blm.gov>
Cc: Littrell, Kyle <Kyle_Littrell@xtoenergy.com>; Sanders, Toady <Toady_Sanders@xtoenergy.com>; McSpadden, Wes <Wes_McSpadden@xtoenergy.com>; Foust, Bryan <Bryan_Foust@xtoenergy.com>
Subject: Initial C-141 - Thriller BWL Federal 1H (API 30-015-43909)

Good Afternoon,

Attached is the initial form C-141 detailing the release from the referenced facility. Please call us with any questions or concerns. Thank you.

Respectfully,

Amy C. Ruth
Delaware Basin Division
Environmental Coordinator
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380

From: Foust, Bryan
Sent: Thursday, July 26, 2018 1:24 PM
To: Bratcher, Mike, EMNRD; maria.pruett@state.nm.us; Mann, Ryan; Jim Amos; Tucker, Shelly (stucker@blm.gov)
Cc: Littrell, Kyle; Ruth, Amy; Sanders, Toady; McSpadden, Wes
Subject: Release notification - Thriller BWL Federal 1H (API 30-015-43909)

Good afternoon, this is sent as notification of a release of fluids in an amount greater than 25 barrels. The associated well is on federal land, but the release originated from a flowline on the pad at the Shocker 32 battery, which is on state land. Details will be provided with an initial form C-141. Please contact us with any questions.

Thank you,
Jake Foust
XTO Energy
432-266-2663

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-4915
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-4915
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.093055 Longitude W -103.998609
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Thriller BWL Federal 001H	Site Type: Exploration and Production
Date Release Discovered: 7/25/2018	API# *(if applicable):* 30-015-43909

Unit Letter	Section	Township	Range	County
A	32	25S	29E	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): 3	Volume Recovered (bbls): 3
☒ Produced Water	Volume Released (bbls): 51	Volume Recovered (bbls): 47
	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
The release was a result of a flex pipe flowline rubbing and flexing against a rock. The flowline was repaired and buried.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4915
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 greater 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 Jake Foust to Mike Bratcher/Maria Pruett (NMOCD), Jim Amos/Shelly Tucker (BLM), and Ryan Mann (SLO) on July 26, 2018, at 1:24 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: 3-23-2020

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

OCD Only

Received by: Date:

Incident ID	
District RP	2RP-4915
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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4915
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: 3-23-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nMAP1822341832
District RP	2RP-4915
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: 3-23-2020

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: 09/14/2021

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

		BH or PH Name: PH01	Date: 2.27.20
		Site Name: Thriller	
		RP or Incident Number: 2RP-4915	
		LTE Job Number:	
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter: —	Total Depth: 5'

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	186	1197	N	PH01	1	1	CcHE	0-5 Caliche w/ sand, white-tan caliche, no stain, odor, m-f, poorly graded
D	186	730.6	N			2		-2- increase in caliche size
D	186	705	N	PH01A	3	3		
D	186	261	N			4		-4- increase sand size, poorly graded, medium
D	186	13.4	N	PH01B	5	5		
						6		TD @ 5'
						7		
						8		
						9		
						10		
						11		
						12		

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

A proud member of WSP

BH or PH Name: PH02	Date: 2.27.20
Site Name: Thriller	
RP or Incident Number: 2RP-4915	
LTE Job Number:	
Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: —	Total Depth: 5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	1186	56.5	N	PH02	1	0–1	SP	0–5 Sand w/ caliche, tan/brown, odor/no stain, m-f, poorly graded, tan caliche
D	896	116.6	N	PH02A	3	2–3		
						4		-4- increase caliche, white-tan
D	651	11.4	N	PH03A	5	5		
						6–12		TD @ 5'

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

A proud member of WSP

BH or PH Name: PH03	Date: 2.27.20
Site Name: Thriller	
RP or Incident Number: 2RP-4915	
LTE Job Number:	
Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: —	Total Depth: 5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		0-5
D	<896	213.6	N	PH03	1	1		Caliche, tan, white, odor, no stain, - m-f, poorly graded, tan sand
						2	CCHE	
D	1156	5.0	N	PH03A	3	3		
						4		4- increase in sand
D	1483	3.5	N	PH03B	5	5		
						6		TD @ 5'
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP

BH or PH Name: PH04	Date: 2.27.20
Site Name: Thriller	
RP or Incident Number: 2RP- 4915	
LTE Job Number:	
Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: —	Total Depth: 5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	<896	4.7	N	PH04	1.5	0 1 2	CHE	0-5 Caliche, tan-white, odor, no stain, w/ Sand, tan, m-f, poorly graded
D	<896	8.6	N	PH04A	3	3 4		
D	<896	51.1	N	PH04B	5	5		
						6 7 8 9 10 11 12		TD @ 5'

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

A proud member of WSP

BH or PH Name: PH05	Date: 2.27.20
Site Name: Thriller	
RP or Incident Number: 2RP-4915	
LTE Job Number:	
Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: —	Total Depth: 5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		0-5
D	<896	12.1	N	PH05	1	1	CCHE	Caliche w/ sand, no stain, odor, white-tan, poorly graded, m-f, brown-tan sand
						2		
D	<896	47.6	N	PH05A	3	3		
						4		
D	<896	46.8	N	PH05B	5	5		
						6		TD @ 5'
						7		
						8		
						9		
						10		
						11		
						12		

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

A proud member of WSP

BH or PH Name: PH06	Date: 2.28.20
Site Name: Thriller	
RP or Incident Number: 2RP-4915	
LTE Job Number:	
Logged By: SL	Method: Backhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 5'

Comments: TD @ 5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	<896	2.1	N	PH06	1	0 1 2	caliche	0-5 Caliche w/ sand, tan, brown, no odor, no stain, c-m, poorly graded
D	<896	1.6	N	PH06A	3	3 4		
D	<896	2.4	N	PH06B	5	5 6 7 8 9 10 11 12		TD @ 5'

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: West facing view of the release area.

Photograph 2: South facing view of the release area.

Photograph 3: West facing view of open excavation.

Photograph 4: West facing view of open excavation.

Thriller BWL Federal 001H
Eddy County, New Mexico
Photographs Taken: February 2020

PHOTOGRAPHIC LOG

Photograph 5: View of backfilled excavation.

Photograph 6: View of backfilled excavation.

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 654041

for

LT Environmental, Inc.

Project Manager: Dan Moir

Thriller

012918162

03.02.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

03.02.2020

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

Reference: XENCO Report No(s): **654041**
Thriller
Project Address:

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) 654041. 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. 654041 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

A Small Business and Minority Company

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

Sample Cross Reference 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	02.27.2020 12:20	1 ft	654041-001
PH01A	S	02.27.2020 12:40	3 ft	654041-002
PH01B	S	02.27.2020 13:00	5 ft	654041-003
PH02	S	02.27.2020 13:10	1 ft	654041-004
PH02A	S	02.27.2020 13:20	3 ft	654041-005
PH02B	S	02.27.2020 13:30	5 ft	654041-006
PH03	S	02.27.2020 13:40	1 ft	654041-007
PH03A	S	02.27.2020 13:50	3 ft	654041-008
PH03B	S	02.27.2020 14:00	5 ft	654041-009
PH04	S	02.27.2020 14:10	1.5 ft	654041-010
PH04A	S	02.27.2020 14:20	3 ft	654041-011
PH04B	S	02.27.2020 14:35	5 ft	654041-012
PH05	S	02.27.2020 15:00	1 ft	654041-013
PH05A	S	02.27.2020 15:15	3 ft	654041-014
PH05B	S	02.27.2020 15:30	5 ft	654041-015

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Thriller

Project ID: *012918162*
Work Order Number(s): *654041*

Report Date: *03.02.2020*
Date Received: *02.28.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118140 BTEX by EPA 8021B

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

Certificate of Analysis Summary 654041

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 02.28.2020 08:35
Report Date: 03.02.2020 12:22
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	654041-001		654041-002		654041-003		654041-004		654041-005		654041-006	
	Field Id:	PH01		PH01A		PH01B		PH02		PH02A		PH02B	
	Depth:	1- ft		3- ft		5- ft		1- ft		3- ft		5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.27.2020 12:20		02.27.2020 12:40		02.27.2020 13:00		02.27.2020 13:10		02.27.2020 13:20		02.27.2020 13:30	
BTEX by EPA 8021B	*Extracted:*	02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34	
	Analyzed:	02.28.2020 13:12		02.28.2020 13:32		02.28.2020 13:52		02.28.2020 14:13		02.28.2020 14:33		02.29.2020 07:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00500	0.00500	<0.00500	0.00500	<0.00500	0.00500	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Toluene		0.424	0.0200	0.00950	0.00500	<0.00500	0.00500	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		1.63	0.0200	0.0705	0.0200	<0.00500	0.00500	<0.00199	0.00199	0.0112	0.00200	<0.00199	0.00199
m,p-Xylenes		5.34	0.0400	0.169	0.0400	0.0590	0.0400	<0.00398	0.00398	0.0203	0.00400	<0.00398	0.00398
o-Xylene		3.89	0.0200	0.239	0.0200	0.0260	0.0200	<0.00199	0.00199	0.0204	0.00200	<0.00199	0.00199
Total Xylenes		9.23	0.0200	0.408	0.0200	0.0850	0.0200	<0.00199	0.00199	0.0407	0.00200	<0.00199	0.00199
Total BTEX		11.3	0.00500	0.488	0.00500	0.0850	0.00500	<0.00199	0.00199	0.0519	0.00200	<0.00199	0.00199
Chloride by EPA 300	*Extracted:*	02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30	
	Analyzed:	02.28.2020 10:56		02.28.2020 11:13		02.28.2020 11:19		02.28.2020 11:25		02.28.2020 11:30		02.28.2020 11:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		41.7	9.98	129	50.3	70.0	10.1	59.1	9.98	223	9.98	1440	49.6
TPH by SW8015 Mod	*Extracted:*	02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00	
	Analyzed:	03.02.2020 10:48		02.28.2020 15:11		02.28.2020 13:51		02.28.2020 14:11		02.28.2020 14:11		02.28.2020 14:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		2310	250	115	50.0	<49.8	49.8	<50.1	50.1	<50.1	50.1	<50.0	50.0
Diesel Range Organics (DRO)		16400	250	1990	50.0	<49.8	49.8	166	50.1	479	50.1	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		1740	250	151	50.0	<49.8	49.8	<50.1	50.1	<50.1	50.1	<50.0	50.0
Total GRO-DRO		18700	250	2110	50.0	<49.8	49.8	166	50.1	479	50.1	<50.0	50.0
Total TPH		20500	250	2260	50.0	<49.8	49.8	166	50.1	479	50.1	<50.0	50.0

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 654041

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 02.28.2020 08:35
Report Date: 03.02.2020 12:22
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	654041-007		654041-008		654041-009		654041-010		654041-011		654041-012	
	Field Id:	PH03		PH03A		PH03B		PH04		PH04A		PH04B	
	Depth:	1- ft		3- ft		5- ft		1.5- ft		3- ft		5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.27.2020 13:40		02.27.2020 13:50		02.27.2020 14:00		02.27.2020 14:10		02.27.2020 14:20		02.27.2020 14:35	
BTEX by EPA 8021B	***Extracted:***	02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34	
	Analyzed:	02.28.2020 15:14		02.28.2020 15:34		02.28.2020 15:55		02.28.2020 17:37		02.28.2020 17:57		02.28.2020 18:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	0.0161	0.00399	<0.00399	0.00399	<0.00397	0.00397	<0.00400	0.00400	<0.00398	0.00398
o-Xylene		0.00538	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		0.00538	0.00199	0.0161	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		0.00538	0.00199	0.0161	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30	
	Analyzed:	02.28.2020 11:53		02.28.2020 11:59		02.28.2020 12:04		02.28.2020 12:10		02.28.2020 12:16		02.28.2020 12:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		827	50.4	729	49.7	1580	50.1	46.8	10.1	43.1	9.92	597	49.8
TPH by SW8015 Mod	***Extracted:***	02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00	
	Analyzed:	02.28.2020 14:31		02.28.2020 14:51		02.28.2020 14:51		02.28.2020 16:20		02.28.2020 16:20		02.28.2020 16:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		458	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9	67.8	50.0	252	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9
Total GRO-DRO		458	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9	67.8	50.0	252	49.9
Total TPH		458	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9	67.8	50.0	252	49.9

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 654041

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri 02.28.2020 08:35
Report Date: 03.02.2020 12:22
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	654041-013		654041-014		654041-015				
	Field Id:	PH05		PH05A		PH05B				
	Depth:	1- ft		3- ft		5- ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	02.27.2020 15:00		02.27.2020 15:15		02.27.2020 15:30				
BTEX by EPA 8021B	***Extracted:***	02.28.2020 10:34		02.28.2020 10:34		02.28.2020 10:34				
	Analyzed:	02.28.2020 18:38		02.28.2020 18:58		02.28.2020 16:15				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00250	0.00250	<0.00200	0.00200	<0.00200	0.00200			
Toluene		<0.00250	0.00250	<0.00200	0.00200	<0.00200	0.00200			
Ethylbenzene		0.0181	0.0100	<0.00200	0.00200	<0.00200	0.00200			
m,p-Xylenes		0.107	0.0200	<0.00400	0.00400	<0.00401	0.00401			
o-Xylene		0.0729	0.0100	<0.00200	0.00200	<0.00200	0.00200			
Total Xylenes		0.180	0.0100	<0.00200	0.00200	<0.00200	0.00200			
Total BTEX		0.198	0.00250	<0.00200	0.00200	<0.00200	0.00200			
Chloride by EPA 300	***Extracted:***	02.28.2020 10:30		02.28.2020 10:30		02.28.2020 10:30				
	Analyzed:	02.28.2020 12:39		02.28.2020 12:56		02.28.2020 13:01				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		95.7	49.9	63.4	50.1	56.1	9.94			
TPH by SW8015 Mod	***Extracted:***	02.28.2020 10:00		02.28.2020 10:00		02.28.2020 10:00				
	Analyzed:	02.28.2020 16:40		02.28.2020 17:00		02.28.2020 13:31				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.2	50.2	<49.9	49.9			
Diesel Range Organics (DRO)		697	50.1	73.1	50.2	95.7	49.9			
Motor Oil Range Hydrocarbons (MRO)		71.2	50.1	<50.2	50.2	<49.9	49.9			
Total GRO-DRO		697	50.1	73.1	50.2	95.7	49.9			
Total TPH		768	50.1	73.1	50.2	95.7	49.9			

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Jessica Kramer
Project Assistant

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id: **PH01** Matrix: Soil Date Received:02.28.2020 08:35
Lab Sample Id: 654041-001 Date Collected: 02.27.2020 12:20 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 02.28.2020 10:30 Basis: Wet Weight
Seq Number: 3118156

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.7**	9.98	mg/kg	02.28.2020 10:56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: MAB % Moisture:
Analyst: CAC Date Prep: 02.28.2020 10:00 Basis: Wet Weight
Seq Number: 3118137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2310**	250	mg/kg	03.02.2020 10:48		5
Diesel Range Organics (DRO)	C10C28DRO	**16400**	250	mg/kg	03.02.2020 10:48		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1740**	250	mg/kg	03.02.2020 10:48		5
Total GRO-DRO	PHC628	**18700**	250	mg/kg	03.02.2020 10:48		5
Total TPH	PHC635	**20500**	250	mg/kg	03.02.2020 10:48		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	03.02.2020 10:48	
o-Terphenyl	84-15-1	129	%	70-135	03.02.2020 10:48	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-001	Date Collected:	02.27.2020 12:20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00500	0.00500	mg/kg	02.28.2020 13:12	U	1
Toluene	108-88-3	**0.424**	0.0200	mg/kg	02.28.2020 13:12		1
Ethylbenzene	100-41-4	**1.63**	0.0200	mg/kg	02.28.2020 13:12		1
m,p-Xylenes	179601-23-1	**5.34**	0.0400	mg/kg	02.28.2020 13:12		1
o-Xylene	95-47-6	**3.89**	0.0200	mg/kg	02.28.2020 13:12		1
Total Xylenes	1330-20-7	**9.23**	0.0200	mg/kg	02.28.2020 13:12		1
Total BTEX		**11.3**	0.00500	mg/kg	02.28.2020 13:12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	02.28.2020 13:12	
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.28.2020 13:12	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-002	Date Collected:	02.27.2020 12:40	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**129**	50.3	mg/kg	02.28.2020 11:13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**115**	50.0	mg/kg	02.28.2020 15:11		1
Diesel Range Organics (DRO)	C10C28DRO	**1990**	50.0	mg/kg	02.28.2020 15:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**151**	50.0	mg/kg	02.28.2020 15:11		1
Total GRO-DRO	PHC628	**2110**	50.0	mg/kg	02.28.2020 15:11		1
Total TPH	PHC635	**2260**	50.0	mg/kg	02.28.2020 15:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	02.28.2020 15:11	
o-Terphenyl	84-15-1	131	%	70-135	02.28.2020 15:11	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-002	Date Collected:	02.27.2020 12:40	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00500	0.00500	mg/kg	02.28.2020 13:32	U	1
Toluene	108-88-3	**0.00950**	0.00500	mg/kg	02.28.2020 13:32		1
Ethylbenzene	100-41-4	**0.0705**	0.0200	mg/kg	02.28.2020 13:32		1
m,p-Xylenes	179601-23-1	**0.169**	0.0400	mg/kg	02.28.2020 13:32		1
o-Xylene	95-47-6	**0.239**	0.0200	mg/kg	02.28.2020 13:32		1
Total Xylenes	1330-20-7	**0.408**	0.0200	mg/kg	02.28.2020 13:32		1
Total BTEX		**0.488**	0.00500	mg/kg	02.28.2020 13:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	02.28.2020 13:32	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.28.2020 13:32	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-003	Date Collected:	02.27.2020 13:00	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.0**	10.1	mg/kg	02.28.2020 11:19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.28.2020 13:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.28.2020 13:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.28.2020 13:51	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.28.2020 13:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.28.2020 13:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.28.2020 13:51	
o-Terphenyl	84-15-1	102	%	70-135	02.28.2020 13:51	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-003	Date Collected:	02.27.2020 13:00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00500	0.00500	mg/kg	02.28.2020 13:52	U	1
Toluene	108-88-3	<0.00500	0.00500	mg/kg	02.28.2020 13:52	U	1
Ethylbenzene	100-41-4	<0.00500	0.00500	mg/kg	02.28.2020 13:52	U	1
m,p-Xylenes	179601-23-1	**0.0590**	0.0400	mg/kg	02.28.2020 13:52		1
o-Xylene	95-47-6	**0.0260**	0.0200	mg/kg	02.28.2020 13:52		1
Total Xylenes	1330-20-7	**0.0850**	0.0200	mg/kg	02.28.2020 13:52		1
Total BTEX		**0.0850**	0.00500	mg/kg	02.28.2020 13:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.28.2020 13:52	
4-Bromofluorobenzene	460-00-4	122	%	70-130	02.28.2020 13:52	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-004	Date Collected:	02.27.2020 13:10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**59.1**	9.98	mg/kg	02.28.2020 11:25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.28.2020 14:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**166**	50.1	mg/kg	02.28.2020 14:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.28.2020 14:11	U	1
Total GRO-DRO	PHC628	**166**	50.1	mg/kg	02.28.2020 14:11		1
Total TPH	PHC635	**166**	50.1	mg/kg	02.28.2020 14:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.28.2020 14:11	
o-Terphenyl	84-15-1	120	%	70-135	02.28.2020 14:11	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-004	Date Collected:	02.27.2020 13:10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.28.2020 14:13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.28.2020 14:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.28.2020 14:13	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.28.2020 14:13	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-005	Date Collected:	02.27.2020 13:20	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**223**	9.98	mg/kg	02.28.2020 11:30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.28.2020 14:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**479**	50.1	mg/kg	02.28.2020 14:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.28.2020 14:11	U	1
Total GRO-DRO	PHC628	**479**	50.1	mg/kg	02.28.2020 14:11		1
Total TPH	PHC635	**479**	50.1	mg/kg	02.28.2020 14:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.28.2020 14:11	
o-Terphenyl	84-15-1	116	%	70-135	02.28.2020 14:11	

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LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-005	Date Collected:	02.27.2020 13:20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 14:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 14:33	U	1
Ethylbenzene	100-41-4	**0.0112**	0.00200	mg/kg	02.28.2020 14:33		1
m,p-Xylenes	179601-23-1	**0.0203**	0.00400	mg/kg	02.28.2020 14:33		1
o-Xylene	95-47-6	**0.0204**	0.00200	mg/kg	02.28.2020 14:33		1
Total Xylenes	1330-20-7	**0.0407**	0.00200	mg/kg	02.28.2020 14:33		1
Total BTEX		**0.0519**	0.00200	mg/kg	02.28.2020 14:33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.28.2020 14:33	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.28.2020 14:33	

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Thriller

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-006	Date Collected:	02.27.2020 13:30	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1440**	49.6	mg/kg	02.28.2020 11:47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.28.2020 14:31	
o-Terphenyl	84-15-1	116	%	70-135	02.28.2020 14:31	

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Thriller

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-006	Date Collected:	02.27.2020 13:30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.29.2020 07:33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.29.2020 07:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.29.2020 07:33	
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.29.2020 07:33	

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Thriller

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-007	Date Collected:	02.27.2020 13:40	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**827**	50.4	mg/kg	02.28.2020 11:53		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	**458**	50.0	mg/kg	02.28.2020 14:31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.28.2020 14:31	U	1
Total GRO-DRO	PHC628	**458**	50.0	mg/kg	02.28.2020 14:31		1
Total TPH	PHC635	**458**	50.0	mg/kg	02.28.2020 14:31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.28.2020 14:31	
o-Terphenyl	84-15-1	105	%	70-135	02.28.2020 14:31	

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Thriller

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-007	Date Collected:	02.27.2020 13:40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.28.2020 15:14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.28.2020 15:14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.28.2020 15:14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.28.2020 15:14	U	1
o-Xylene	95-47-6	**0.00538**	0.00199	mg/kg	02.28.2020 15:14		1
Total Xylenes	1330-20-7	**0.00538**	0.00199	mg/kg	02.28.2020 15:14		1
Total BTEX		**0.00538**	0.00199	mg/kg	02.28.2020 15:14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.28.2020 15:14	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.28.2020 15:14	

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Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-008	Date Collected:	02.27.2020 13:50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**729**	49.7	mg/kg	02.28.2020 11:59		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.28.2020 14:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.28.2020 14:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.28.2020 14:51	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.28.2020 14:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.28.2020 14:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.28.2020 14:51	
o-Terphenyl	84-15-1	118	%	70-135	02.28.2020 14:51	

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Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-008	Date Collected:	02.27.2020 13:50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 15:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 15:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.2020 15:34	U	1
m,p-Xylenes	179601-23-1	**0.0161**	0.00399	mg/kg	02.28.2020 15:34		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.2020 15:34	U	1
Total Xylenes	1330-20-7	**0.0161**	0.00200	mg/kg	02.28.2020 15:34		1
Total BTEX		**0.0161**	0.00200	mg/kg	02.28.2020 15:34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.28.2020 15:34	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.28.2020 15:34	

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Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-009	Date Collected:	02.27.2020 14:00	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1580**	50.1	mg/kg	02.28.2020 12:04		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.28.2020 14:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.28.2020 14:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.28.2020 14:51	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.28.2020 14:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.28.2020 14:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.28.2020 14:51	
o-Terphenyl	84-15-1	112	%	70-135	02.28.2020 14:51	

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Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-009	Date Collected:	02.27.2020 14:00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.28.2020 15:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.2020 15:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.28.2020 15:55	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.28.2020 15:55	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-010	Date Collected:	02.27.2020 14:10	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**46.8**	10.1	mg/kg	02.28.2020 12:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.28.2020 16:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.28.2020 16:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.28.2020 16:20	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.28.2020 16:20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.28.2020 16:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	02.28.2020 16:20	
o-Terphenyl	84-15-1	132	%	70-135	02.28.2020 16:20	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-010	Date Collected:	02.27.2020 14:10	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.28.2020 17:37	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.28.2020 17:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.28.2020 17:37	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.28.2020 17:37	

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-011	Date Collected:	02.27.2020 14:20	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.1**	9.92	mg/kg	02.28.2020 12:16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.28.2020 16:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	**67.8**	50.0	mg/kg	02.28.2020 16:20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.28.2020 16:20	U	1
Total GRO-DRO	PHC628	**67.8**	50.0	mg/kg	02.28.2020 16:20		1
Total TPH	PHC635	**67.8**	50.0	mg/kg	02.28.2020 16:20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.28.2020 16:20	
o-Terphenyl	84-15-1	105	%	70-135	02.28.2020 16:20	

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Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-011	Date Collected:	02.27.2020 14:20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.28.2020 17:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.2020 17:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.28.2020 17:57	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.28.2020 17:57	

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Sample Id:	**PH04B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-012	Date Collected:	02.27.2020 14:35	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**597**	49.8	mg/kg	02.28.2020 12:33		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.28.2020 16:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	**252**	49.9	mg/kg	02.28.2020 16:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.28.2020 16:40	U	1
Total GRO-DRO	PHC628	**252**	49.9	mg/kg	02.28.2020 16:40		1
Total TPH	PHC635	**252**	49.9	mg/kg	02.28.2020 16:40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.28.2020 16:40	
o-Terphenyl	84-15-1	128	%	70-135	02.28.2020 16:40	

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Sample Id:	**PH04B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-012	Date Collected:	02.27.2020 14:35	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.28.2020 18:18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.28.2020 18:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.28.2020 18:18	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.28.2020 18:18	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id: **PH05** Matrix: Soil Date Received:02.28.2020 08:35
Lab Sample Id: 654041-013 Date Collected: 02.27.2020 15:00 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 02.28.2020 10:30 Basis: Wet Weight
Seq Number: 3118156

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.7**	49.9	mg/kg	02.28.2020 12:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: MAB % Moisture:
Analyst: CAC Date Prep: 02.28.2020 10:00 Basis: Wet Weight
Seq Number: 3118137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.28.2020 16:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	**697**	50.1	mg/kg	02.28.2020 16:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**71.2**	50.1	mg/kg	02.28.2020 16:40		1
Total GRO-DRO	PHC628	**697**	50.1	mg/kg	02.28.2020 16:40		1
Total TPH	PHC635	**768**	50.1	mg/kg	02.28.2020 16:40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.28.2020 16:40	
o-Terphenyl	84-15-1	115	%	70-135	02.28.2020 16:40	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-013	Date Collected:	02.27.2020 15:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00250	0.00250	mg/kg	02.28.2020 18:38	U	1
Toluene	108-88-3	<0.00250	0.00250	mg/kg	02.28.2020 18:38	U	1
Ethylbenzene	100-41-4	**0.0181**	0.0100	mg/kg	02.28.2020 18:38		1
m,p-Xylenes	179601-23-1	**0.107**	0.0200	mg/kg	02.28.2020 18:38		1
o-Xylene	95-47-6	**0.0729**	0.0100	mg/kg	02.28.2020 18:38		1
Total Xylenes	1330-20-7	**0.180**	0.0100	mg/kg	02.28.2020 18:38		1
Total BTEX		**0.198**	0.00250	mg/kg	02.28.2020 18:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.28.2020 18:38	
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.28.2020 18:38	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-014	Date Collected:	02.27.2020 15:15	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**63.4**	50.1	mg/kg	02.28.2020 12:56		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.28.2020 17:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**73.1**	50.2	mg/kg	02.28.2020 17:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.28.2020 17:00	U	1
Total GRO-DRO	PHC628	**73.1**	50.2	mg/kg	02.28.2020 17:00		1
Total TPH	PHC635	**73.1**	50.2	mg/kg	02.28.2020 17:00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.28.2020 17:00	
o-Terphenyl	84-15-1	124	%	70-135	02.28.2020 17:00	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-014	Date Collected:	02.27.2020 15:15	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.28.2020 18:58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.2020 18:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.28.2020 18:58	
1,4-Difluorobenzene	540-36-3	101	%	70-130	02.28.2020 18:58	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH05B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-015	Date Collected:	02.27.2020 15:30	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3118156				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.1**	9.94	mg/kg	02.28.2020 13:01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	CAC	Date Prep:	02.28.2020 10:00	Basis:	Wet Weight
Seq Number:	3118137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.28.2020 13:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	**95.7**	49.9	mg/kg	02.28.2020 13:31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.28.2020 13:31	U	1
Total GRO-DRO	PHC628	**95.7**	49.9	mg/kg	02.28.2020 13:31		1
Total TPH	PHC635	**95.7**	49.9	mg/kg	02.28.2020 13:31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.28.2020 13:31	
o-Terphenyl	84-15-1	119	%	70-135	02.28.2020 13:31	

Certificate of Analytical Results 654041

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH05B**	Matrix:	Soil	Date Received:	02.28.2020 08:35
Lab Sample Id:	654041-015	Date Collected:	02.27.2020 15:30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.2020 10:34	Basis:	Wet Weight
Seq Number:	3118140				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.28.2020 16:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.2020 16:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.28.2020 16:15	
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.28.2020 16:15	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 654041

LT Environmental, Inc.

Thriller

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118156 — Matrix: Solid — Date Prep: 02.28.2020
MB Sample Id: 7697721-1-BLK — LCS Sample Id: 7697721-1-BKS — LCSD Sample Id: 7697721-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	260	104	90-110	0	20	mg/kg	02.28.2020 10:45	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118156 — Matrix: Soil — Date Prep: 02.28.2020
Parent Sample Id: 654041-001 — MS Sample Id: 654041-001 S — MSD Sample Id: 654041-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	41.7	200	257	108	256	107	90-110	0	20	mg/kg	02.28.2020 11:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118156 — Matrix: Soil — Date Prep: 02.28.2020
Parent Sample Id: 654041-011 — MS Sample Id: 654041-011 S — MSD Sample Id: 654041-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.1	200	241	99	240	99	90-110	0	20	mg/kg	02.28.2020 12:21	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118137 — Matrix: Solid — Date Prep: 02.28.2020
MB Sample Id: 7697709-1-BLK — LCS Sample Id: 7697709-1-BKS — LCSD Sample Id: 7697709-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	967	97	907	91	70-135	6	35	mg/kg	02.28.2020 12:51	
Diesel Range Organics (DRO)	<50.0	1000	950	95	882	88	70-135	7	35	mg/kg	02.28.2020 12:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		108		114		70-135	%	02.28.2020 12:51
o-Terphenyl	120		112		107		70-135	%	02.28.2020 12:51

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118137 — Matrix: Solid — Date Prep: 02.28.2020
MB Sample Id: 7697709-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.28.2020 12:31	

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 654041

LT Environmental, Inc.

Thriller

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3118137 | Matrix: Soil | Date Prep: 02.28.2020
Parent Sample Id: 654041-015 | MS Sample Id: 654041-015 S | MSD Sample Id: 654041-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	995	735	74	831	83	70-135	12	35	mg/kg	02.28.2020 13:31	
Diesel Range Organics (DRO)	95.7	995	902	81	976	88	70-135	8	35	mg/kg	02.28.2020 13:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		106		70-135	%	02.28.2020 13:31
o-Terphenyl	108		111		70-135	%	02.28.2020 13:31

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118140 | Matrix: Solid | Date Prep: 02.28.2020
MB Sample Id: 7697713-1-BLK | LCS Sample Id: 7697713-1-BKS | LCSD Sample Id: 7697713-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.106	106	70-130	3	35	mg/kg	02.28.2020 11:09	
Toluene	<0.00200	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	02.28.2020 11:09	
Ethylbenzene	<0.00200	0.100	0.102	102	0.0993	99	71-129	3	35	mg/kg	02.28.2020 11:09	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.205	103	70-135	3	35	mg/kg	02.28.2020 11:09	
o-Xylene	<0.00200	0.100	0.105	105	0.102	102	71-133	3	35	mg/kg	02.28.2020 11:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		105		70-130	%	02.28.2020 11:09
4-Bromofluorobenzene	94		95		95		70-130	%	02.28.2020 11:09

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118140 | Matrix: Soil | Date Prep: 02.28.2020
Parent Sample Id: 654041-015 | MS Sample Id: 654041-015 S | MSD Sample Id: 654041-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.114	114	0.119	119	70-130	4	35	mg/kg	02.28.2020 11:50	
Toluene	<0.00201	0.100	0.111	111	0.116	116	70-130	4	35	mg/kg	02.28.2020 11:50	
Ethylbenzene	<0.00201	0.100	0.105	105	0.111	111	71-129	6	35	mg/kg	02.28.2020 11:50	
m,p-Xylenes	<0.00402	0.201	0.214	106	0.233	117	70-135	9	35	mg/kg	02.28.2020 11:50	
o-Xylene	<0.00201	0.100	0.106	106	0.111	111	71-133	5	35	mg/kg	02.28.2020 11:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	02.28.2020 11:50
4-Bromofluorobenzene	96		122		70-130	%	02.28.2020 11:50

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

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

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 654041

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com, acole@ltenv.com

Work Order Comments

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

Project Name:	Thriller	Turn Around	
Project Number:	012918162	Routine	☐
P.O. Number:	2RP-4915	Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.2	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	15

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	2.27.20	1220	1	1	X	X	X
PH01A			1240	3				
PH01B			1300	5				
PH02			1310	1				
PH02A			1320	3				
PH02B			1330	5				
PH03			1340	1				
PH03A			1350	3				
PH03B			1400	5				
PH04	↓	↓	1410	1.5	↓	↓	↓	↓

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

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
Spencer Lo	Anna Byers	2/28/20 0750	2 Anna Byers		2/28/20 08:3
			4		
			6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

Work Order No: 654041

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
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Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com, acole@ltenv.com

Work Order Comments

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

Project Name:	Thriller	Turn Around	
Project Number:	01291862	Routine	☐
P.O. Number:	2RP-4915	Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH04A	S	2.27.20	1420	3	1	X	X	X
PH04B			1435	5				
PH05			1500	1				
PH05A			1515	3				
PH05B			1530	5				

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

ice: 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 ervice. 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 enco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Anna Byers	2/28/20 0750	2 Anna Byers		2/28/20 08:35
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.28.2020 08.35.00 AM

Work Order #: 654041

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02.28.2020

Checklist reviewed by: Jessica Kramer Date: 02.28.2020

Jessica Kramer

Analytical Report 654154

for

LT Environmental, Inc.

Project Manager: Dan Moir

Thriller

012918162

02-MAR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

02-MAR-20

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

Reference: XENCO Report No(s): **654154**
Thriller
Project Address:

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) 654154. 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. 654154 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 654154

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	02-28-20 12:25	0 - 5 ft	654154-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Thriller

Project ID: *012918162*
Work Order Number(s): *654154*

Report Date: *02-MAR-20*
Date Received: *02/28/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118153 BTEX by EPA 8021B

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

Certificate of Analysis Summary 654154

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Feb-28-20 03:20 pm
Report Date: 02-MAR-20
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	654154-001					
	Field Id:	SW01					
	Depth:	0-5 ft					
	Matrix:	SOIL					
	Sampled:	Feb-28-20 12:25					
BTEX by EPA 8021B	***Extracted:***	Feb-28-20 18:00					
	Analyzed:	Feb-29-20 00:42					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Feb-28-20 17:00					
	Analyzed:	Feb-28-20 21:19					
	Units/RL:	mg/kg	RL				
Chloride		514	10.0				
TPH by SW8015 Mod	***Extracted:***	Feb-28-20 19:09					
	Analyzed:	Feb-29-20 07:43					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1				
Diesel Range Organics (DRO)		79.1	50.1				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1				
Total GRO-DRO		79.1	50.1				
Total TPH		79.1	50.1				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 654154

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654154-001	Date Collected:	02.28.20 12.25	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**514**	10.0	mg/kg	02.28.20 21.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**79.1**	50.1	mg/kg	02.29.20 07.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Total GRO-DRO	PHC628	**79.1**	50.1	mg/kg	02.29.20 07.43		1
Total TPH	PHC635	**79.1**	50.1	mg/kg	02.29.20 07.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.29.20 07.43	
o-Terphenyl	84-15-1	119	%	70-135	02.29.20 07.43	

Certificate of Analytical Results 654154

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654154-001	Date Collected:	02.28.20 12.25	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.29.20 00.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.29.20 00.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.29.20 00.42	
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.29.20 00.42	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

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 654154

LT Environmental, Inc.

Thriller

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697767-1-BLK — LCS Sample Id: 7697767-1-BKS — LCSD Sample Id: 7697767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	225	90	90-110	11	20	mg/kg	02.28.20 20:45	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654052-001 — MS Sample Id: 654052-001 S — MSD Sample Id: 654052-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	45.5	200	258	106	260	107	90-110	1	20	mg/kg	02.28.20 21:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654164-001 — MS Sample Id: 654164-001 S — MSD Sample Id: 654164-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	216	199	420	103	423	104	90-110	1	20	mg/kg	02.28.20 22:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK — LCS Sample Id: 7697771-1-BKS — LCSD Sample Id: 7697771-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	885	89	910	91	70-135	3	35	mg/kg	02.29.20 06:24	
Diesel Range Organics (DRO)	<50.0	1000	961	96	987	99	70-135	3	35	mg/kg	02.29.20 06:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		111		113		70-135	%	02.29.20 06:24
o-Terphenyl	108		109		111		70-135	%	02.29.20 06:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.29.20 06:05	

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

Final 1.000

QC Summary 654154

LT Environmental, Inc.

Thriller

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654051-029 — MS Sample Id: 654051-029 S — MSD Sample Id: 654051-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.5	1010	964	95	906	91	70-135	6	35	mg/kg	03.02.20 12:44	
Diesel Range Organics (DRO)	<50.5	1010	1190	118	1020	102	70-135	15	35	mg/kg	03.02.20 12:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		115		70-135	%	03.02.20 12:44
o-Terphenyl	128		114		70-135	%	03.02.20 12:44

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3118153 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697768-1-BLK — LCS Sample Id: 7697768-1-BKS — LCSD Sample Id: 7697768-1-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	0.119	119	0.116	116	70-130	3	35	mg/kg	02.28.20 22:19	
Toluene	<0.00200	0.100	0.108	108	0.106	106	70-130	2	35	mg/kg	02.28.20 22:19	
Ethylbenzene	<0.00200	0.100	0.103	103	0.101	101	71-129	2	35	mg/kg	02.28.20 22:19	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.198	99	70-135	2	35	mg/kg	02.28.20 22:19	
o-Xylene	<0.00200	0.100	0.103	103	0.101	101	71-133	2	35	mg/kg	02.28.20 22:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		111		110		70-130	%	02.28.20 22:19
4-Bromofluorobenzene	92		88		88		70-130	%	02.28.20 22:19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3118153 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654051-024 — MS Sample Id: 654051-024 S — MSD Sample Id: 654051-024 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	0.113	114	0.104	104	70-130	8	35	mg/kg	02.28.20 23:00	
Toluene	<0.00199	0.0994	0.104	105	0.0941	94	70-130	10	35	mg/kg	02.28.20 23:00	
Ethylbenzene	<0.00199	0.0994	0.0990	100	0.0878	88	71-129	12	35	mg/kg	02.28.20 23:00	
m,p-Xylenes	<0.00398	0.199	0.192	96	0.170	85	70-135	12	35	mg/kg	02.28.20 23:00	
o-Xylene	<0.00199	0.0994	0.0973	98	0.0873	87	71-133	11	35	mg/kg	02.28.20 23:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		70-130	%	02.28.20 23:00
4-Bromofluorobenzene	92		89		70-130	%	02.28.20 23:00

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

Work Order No: 654154

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 ____ of ____

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com, acole@ltenv.com

Work Order Comments

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

Project Name:	Thriller	Turn Around	
Project Number:	012918162	Routine ☐	
P.O. Number:		Rush: 24H	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.6	Thermometer ID		
Received Intact:	(Yes) No	T-NM-007		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	2/28/2020	1225	0-5	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
		2/28/20 15:20	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/28/2020 03:20:00 PM

Work Order #: 654154

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02/28/2020

Checklist reviewed by: Jessica Kramer Date: 02/28/2020

Jessica Kramer

Analytical Report 654157

for

LT Environmental, Inc.

Project Manager: Dan Moir

Thriller

012918162

02-MAR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

02-MAR-20

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

Reference: XENCO Report No(s): **654157**
Thriller
Project Address:

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) 654157. 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. 654157 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 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	02-28-20 11:15	0 - 5 ft	654157-001
FS02	S	02-28-20 12:40	0 - 5 ft	654157-002
SW02	S	02-28-20 12:10	0 - 5 ft	654157-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Thriller

Project ID: *012918162*
Work Order Number(s): *654157*

Report Date: *02-MAR-20*
Date Received: *02/28/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118153 BTEX by EPA 8021B

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

Certificate of Analysis Summary 654157

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Feb-28-20 03:20 pm
Report Date: 02-MAR-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	654157-001		654157-002		654157-003			
	Field Id:	FS01		FS02		SW02			
	Depth:	0-5 ft		0-5 ft		0-5 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Feb-28-20 11:15		Feb-28-20 12:40		Feb-28-20 12:10			
BTEX by EPA 8021B	***Extracted:***	Feb-28-20 18:00		Feb-28-20 18:00		Feb-28-20 18:00			
	Analyzed:	Feb-29-20 01:02		Feb-29-20 01:23		Feb-29-20 01:43			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199		
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199		
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199		
m,p-Xylenes		<0.00399	0.00399	<0.00397	0.00397	<0.00398	0.00398		
o-Xylene		0.0101	0.00200	<0.00198	0.00198	<0.00199	0.00199		
Total Xylenes		0.0101	0.00200	<0.00198	0.00198	<0.00199	0.00199		
Total BTEX		0.0101	0.00200	<0.00198	0.00198	<0.00199	0.00199		
Chloride by EPA 300	***Extracted:***	Feb-28-20 17:00		Feb-28-20 17:00		Feb-28-20 17:00			
	Analyzed:	Feb-28-20 21:24		Feb-28-20 21:30		Feb-28-20 21:36			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		506	10.1	734	9.92	33.4	9.98		
TPH by SW8015 Mod	***Extracted:***	Feb-28-20 19:09		Feb-28-20 19:09		Feb-28-20 19:09			
	Analyzed:	Feb-29-20 07:43		Feb-29-20 08:03		Feb-29-20 08:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.0	50.0	<50.1	50.1		
Diesel Range Organics (DRO)		<50.1	50.1	<50.0	50.0	64.0	50.1		
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.0	50.0	<50.1	50.1		
Total GRO-DRO		<50.1	50.1	<50.0	50.0	64.0	50.1		
Total TPH		<50.1	50.1	<50.0	50.0	64.0	50.1		

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-001	Date Collected:	02.28.20 11.15	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**506**	10.1	mg/kg	02.28.20 21.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.29.20 07.43	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.29.20 07.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	02.29.20 07.43	
o-Terphenyl	84-15-1	88	%	70-135	02.29.20 07.43	

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-001	Date Collected:	02.28.20 11.15	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.29.20 01.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.29.20 01.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.29.20 01.02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.29.20 01.02	U	1
o-Xylene	95-47-6	**0.0101**	0.00200	mg/kg	02.29.20 01.02		1
Total Xylenes	1330-20-7	**0.0101**	0.00200	mg/kg	02.29.20 01.02		1
Total BTEX		**0.0101**	0.00200	mg/kg	02.29.20 01.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.29.20 01.02	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.29.20 01.02	

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-002	Date Collected:	02.28.20 12.40	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**734**	9.92	mg/kg	02.28.20 21.30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.29.20 08.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.29.20 08.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.29.20 08.03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.29.20 08.03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.29.20 08.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.29.20 08.03	
o-Terphenyl	84-15-1	118	%	70-135	02.29.20 08.03	

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-002	Date Collected:	02.28.20 12.40	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.29.20 01.23	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.29.20 01.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.29.20 01.23	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.29.20 01.23	

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-003	Date Collected:	02.28.20 12.10	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.4**	9.98	mg/kg	02.28.20 21.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.29.20 08.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**64.0**	50.1	mg/kg	02.29.20 08.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.29.20 08.03	U	1
Total GRO-DRO	PHC628	**64.0**	50.1	mg/kg	02.29.20 08.03		1
Total TPH	PHC635	**64.0**	50.1	mg/kg	02.29.20 08.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	02.29.20 08.03	
o-Terphenyl	84-15-1	85	%	70-135	02.29.20 08.03	

Certificate of Analytical Results 654157

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654157-003	Date Collected:	02.28.20 12.10	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.29.20 01.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.29.20 01.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	02.29.20 01.43	
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.29.20 01.43	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 654157

LT Environmental, Inc.

Thriller

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697767-1-BLK — LCS Sample Id: 7697767-1-BKS — LCSD Sample Id: 7697767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	225	90	90-110	11	20	mg/kg	02.28.20 20:45	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654052-001 — MS Sample Id: 654052-001 S — MSD Sample Id: 654052-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	45.5	200	258	106	260	107	90-110	1	20	mg/kg	02.28.20 21:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654164-001 — MS Sample Id: 654164-001 S — MSD Sample Id: 654164-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	216	199	420	103	423	104	90-110	1	20	mg/kg	02.28.20 22:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK — LCS Sample Id: 7697771-1-BKS — LCSD Sample Id: 7697771-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	885	89	910	91	70-135	3	35	mg/kg	02.29.20 06:24	
Diesel Range Organics (DRO)	<50.0	1000	961	96	987	99	70-135	3	35	mg/kg	02.29.20 06:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		111		113		70-135	%	02.29.20 06:24
o-Terphenyl	108		109		111		70-135	%	02.29.20 06:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.29.20 06:05	

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 654157

LT Environmental, Inc.

Thriller

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3118192 | Matrix: Soil | Date Prep: 02.28.20
Parent Sample Id: 654051-029 | MS Sample Id: 654051-029 S | MSD Sample Id: 654051-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.5	1010	964	95	906	91	70-135	6	35	mg/kg	03.02.20 12:44	
Diesel Range Organics (DRO)	<50.5	1010	1190	118	1020	102	70-135	15	35	mg/kg	03.02.20 12:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		115		70-135	%	03.02.20 12:44
o-Terphenyl	128		114		70-135	%	03.02.20 12:44

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118153 | Matrix: Solid | Date Prep: 02.28.20
MB Sample Id: 7697768-1-BLK | LCS Sample Id: 7697768-1-BKS | LCSD Sample Id: 7697768-1-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	0.119	119	0.116	116	70-130	3	35	mg/kg	02.28.20 22:19	
Toluene	<0.00200	0.100	0.108	108	0.106	106	70-130	2	35	mg/kg	02.28.20 22:19	
Ethylbenzene	<0.00200	0.100	0.103	103	0.101	101	71-129	2	35	mg/kg	02.28.20 22:19	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.198	99	70-135	2	35	mg/kg	02.28.20 22:19	
o-Xylene	<0.00200	0.100	0.103	103	0.101	101	71-133	2	35	mg/kg	02.28.20 22:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		111		110		70-130	%	02.28.20 22:19
4-Bromofluorobenzene	92		88		88		70-130	%	02.28.20 22:19

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118153 | Matrix: Soil | Date Prep: 02.28.20
Parent Sample Id: 654051-024 | MS Sample Id: 654051-024 S | MSD Sample Id: 654051-024 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	0.113	114	0.104	104	70-130	8	35	mg/kg	02.28.20 23:00	
Toluene	<0.00199	0.0994	0.104	105	0.0941	94	70-130	10	35	mg/kg	02.28.20 23:00	
Ethylbenzene	<0.00199	0.0994	0.0990	100	0.0878	88	71-129	12	35	mg/kg	02.28.20 23:00	
m,p-Xylenes	<0.00398	0.199	0.192	96	0.170	85	70-135	12	35	mg/kg	02.28.20 23:00	
o-Xylene	<0.00199	0.0994	0.0973	98	0.0873	87	71-133	11	35	mg/kg	02.28.20 23:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		70-130	%	02.28.20 23:00
4-Bromofluorobenzene	92		89		70-130	%	02.28.20 23:00

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 654157

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com, acole@ltenv.com

Work Order Comments

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

Project Name:	Thriller	Turn Around	
Project Number:	012918162	Routine ☐	
P.O. Number:		Rush: 24H	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	1.6	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	3

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	2/28/2020	1115	0-5	1	x	x	x
FS02	S	2/28/2020	1240	0-5	1	x	x	x
SW02	S	2/28/2020	1210	0-5	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

ce: 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
ervice. 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
enco. 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
		2/28/20 15:20	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/28/2020 03:20:00 PM

Work Order #: 654157

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02/28/2020

Checklist reviewed by: Jessica Kramer Date: 02/28/2020

Jessica Kramer

Analytical Report 654160

for

LT Environmental, Inc.

Project Manager: Dan Moir

Thriller

012918162

02-MAR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

02-MAR-20

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

Reference: XENCO Report No(s): **654160**
Thriller
Project Address:

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) 654160. 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. 654160 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 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH06	S	02-28-20 13:10	1 ft	654160-001
PH06A	S	02-28-20 13:20	3 ft	654160-002
PH06B	S	02-28-20 13:30	5 ft	654160-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Thriller

Project ID: *012918162*
Work Order Number(s): *654160*

Report Date: *02-MAR-20*
Date Received: *02/28/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118153 BTEX by EPA 8021B

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

Certificate of Analysis Summary 654160

LT Environmental, Inc., Arvada, CO

Project Name: Thriller

Project Id: 012918162
Contact: Dan Moir
Project Location:

Date Received in Lab: Fri Feb-28-20 03:20 pm
Report Date: 02-MAR-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	654160-001		654160-002		654160-003			
	Field Id:	PH06		PH06A		PH06B			
	Depth:	1- ft		3- ft		5- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Feb-28-20 13:10		Feb-28-20 13:20		Feb-28-20 13:30			
BTEX by EPA 8021B	***Extracted:***	Feb-28-20 18:00		Feb-28-20 18:00		Feb-28-20 18:00			
	Analyzed:	Feb-29-20 02:03		Feb-29-20 02:24		Feb-29-20 02:44			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
m,p-Xylenes		<0.00400	0.00400	<0.00399	0.00399	<0.00398	0.00398		
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199		
Chloride by EPA 300	***Extracted:***	Feb-28-20 17:00		Feb-28-20 17:00		Feb-28-20 17:00			
	Analyzed:	Feb-28-20 21:53		Feb-28-20 21:58		Feb-28-20 22:04			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		59.1	9.96	10.7	9.84	36.3	9.98		
TPH by SW8015 Mod	***Extracted:***	Feb-28-20 19:09		Feb-28-20 19:09		Feb-28-20 19:09			
	Analyzed:	Mar-02-20 13:45		Feb-29-20 08:23		Feb-29-20 08:42			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.1	50.1	<50.0	50.0		
Diesel Range Organics (DRO)		<50.0	50.0	<50.1	50.1	<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.1	50.1	<50.0	50.0		
Total GRO-DRO		<50.0	50.0	<50.1	50.1	<50.0	50.0		
Total TPH		<50.0	50.0	<50.1	50.1	<50.0	50.0		

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-001	Date Collected:	02.28.20 13.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**59.1**	9.96	mg/kg	02.28.20 21.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.02.20 13.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.02.20 13.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.02.20 13.45	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.02.20 13.45	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.02.20 13.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.02.20 13.45	
o-Terphenyl	84-15-1	122	%	70-135	03.02.20 13.45	

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-001	Date Collected:	02.28.20 13.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.29.20 02.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.29.20 02.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	02.29.20 02.03	
1,4-Difluorobenzene	540-36-3	107	%	70-130	02.29.20 02.03	

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-002	Date Collected:	02.28.20 13.20	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.7**	9.84	mg/kg	02.28.20 21.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.29.20 08.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.29.20 08.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.29.20 08.23	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.29.20 08.23	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.29.20 08.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.29.20 08.23	
o-Terphenyl	84-15-1	107	%	70-135	02.29.20 08.23	

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-002	Date Collected:	02.28.20 13.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.29.20 02.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.29.20 02.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.29.20 02.24	
4-Bromofluorobenzene	460-00-4	89	%	70-130	02.29.20 02.24	

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06B**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-003	Date Collected:	02.28.20 13.30	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 17.00	Basis:	Wet Weight
Seq Number:	3118170				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.3**	9.98	mg/kg	02.28.20 22.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 19.09	Basis:	Wet Weight
Seq Number:	3118192				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.29.20 08.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.29.20 08.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.29.20 08.42	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.29.20 08.42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.29.20 08.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.29.20 08.42	
o-Terphenyl	84-15-1	104	%	70-135	02.29.20 08.42	

Certificate of Analytical Results 654160

LT Environmental, Inc., Arvada, CO

Thriller

Sample Id:	**PH06B**	Matrix:	Soil	Date Received:	02.28.20 15.20
Lab Sample Id:	654160-003	Date Collected:	02.28.20 13.30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.28.20 18.00	Basis:	Wet Weight
Seq Number:	3118153				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.29.20 02.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.29.20 02.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.29.20 02.44	
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.29.20 02.44	

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 654160

LT Environmental, Inc.

Thriller

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697767-1-BLK — LCS Sample Id: 7697767-1-BKS — LCSD Sample Id: 7697767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	251	100	225	90	90-110	11	20	mg/kg	02.28.20 20:45	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654052-001 — MS Sample Id: 654052-001 S — MSD Sample Id: 654052-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	45.5	200	258	106	260	107	90-110	1	20	mg/kg	02.28.20 21:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3118170 — Matrix: Soil — Date Prep: 02.28.20
Parent Sample Id: 654164-001 — MS Sample Id: 654164-001 S — MSD Sample Id: 654164-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	216	199	420	103	423	104	90-110	1	20	mg/kg	02.28.20 22:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK — LCS Sample Id: 7697771-1-BKS — LCSD Sample Id: 7697771-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	885	89	910	91	70-135	3	35	mg/kg	02.29.20 06:24	
Diesel Range Organics (DRO)	<50.0	1000	961	96	987	99	70-135	3	35	mg/kg	02.29.20 06:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		111		113		70-135	%	02.29.20 06:24
o-Terphenyl	108		109		111		70-135	%	02.29.20 06:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3118192 — Matrix: Solid — Date Prep: 02.28.20
MB Sample Id: 7697771-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.29.20 06:05	

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 654160

LT Environmental, Inc.

Thriller

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3118192 | Matrix: Soil | Date Prep: 02.28.20
Parent Sample Id: 654051-029 | MS Sample Id: 654051-029 S | MSD Sample Id: 654051-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.5	1010	964	95	906	91	70-135	6	35	mg/kg	03.02.20 12:44	
Diesel Range Organics (DRO)	<50.5	1010	1190	118	1020	102	70-135	15	35	mg/kg	03.02.20 12:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		115		70-135	%	03.02.20 12:44
o-Terphenyl	128		114		70-135	%	03.02.20 12:44

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118153 | Matrix: Solid | Date Prep: 02.28.20
MB Sample Id: 7697768-1-BLK | LCS Sample Id: 7697768-1-BKS | LCSD Sample Id: 7697768-1-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	0.119	119	0.116	116	70-130	3	35	mg/kg	02.28.20 22:19	
Toluene	<0.00200	0.100	0.108	108	0.106	106	70-130	2	35	mg/kg	02.28.20 22:19	
Ethylbenzene	<0.00200	0.100	0.103	103	0.101	101	71-129	2	35	mg/kg	02.28.20 22:19	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.198	99	70-135	2	35	mg/kg	02.28.20 22:19	
o-Xylene	<0.00200	0.100	0.103	103	0.101	101	71-133	2	35	mg/kg	02.28.20 22:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		111		110		70-130	%	02.28.20 22:19
4-Bromofluorobenzene	92		88		88		70-130	%	02.28.20 22:19

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3118153 | Matrix: Soil | Date Prep: 02.28.20
Parent Sample Id: 654051-024 | MS Sample Id: 654051-024 S | MSD Sample Id: 654051-024 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	0.113	114	0.104	104	70-130	8	35	mg/kg	02.28.20 23:00	
Toluene	<0.00199	0.0994	0.104	105	0.0941	94	70-130	10	35	mg/kg	02.28.20 23:00	
Ethylbenzene	<0.00199	0.0994	0.0990	100	0.0878	88	71-129	12	35	mg/kg	02.28.20 23:00	
m,p-Xylenes	<0.00398	0.199	0.192	96	0.170	85	70-135	12	35	mg/kg	02.28.20 23:00	
o-Xylene	<0.00199	0.0994	0.0973	98	0.0873	87	71-133	11	35	mg/kg	02.28.20 23:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		70-130	%	02.28.20 23:00
4-Bromofluorobenzene	92		89		70-130	%	02.28.20 23:00

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

Work Order No: 454160

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

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com, acole@ltenv.com

Work Order Comments

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

Project Name:	Thriller	Turn Around	
Project Number:	012918162	Routine ☐	
P.O. Number:		Rush: 24H	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	1.6	Thermometer ID		
Received Intact:	(Yes) No	T-NM-007		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:	3	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH06	S	2/28/2020	1310	1	1	x	x	x
PH06A	S	2/28/2020	1320	3	1	x	x	x
PH06B	S	2/28/2020	1330	5	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
		2/28/20 15:20	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/28/2020 03:20:00 PM

Work Order #: 654160

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02/28/2020

Checklist reviewed by: Jessica Kramer Date: 02/28/2020

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

Action 4882

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 4882
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/14/2021