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

February 21, 2020

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

RE: Closure Request
Cattle Baron State #001Y
Remediation Permit Numbers 2RP-4686
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 and soil sampling activities at the Cattle Baron State #001Y (Site), located in Unit P, Section 6, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacted soil resulting from a produced water release 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. Based on the laboratory analytical results for soil samples collected at the Site, XTO is submitting this Closure Request, describing site assessment activities that have occurred and requesting no further action for the release event.

RELEASE BACKGROUND

On March 15, 2018, a 2-inch Kimray dump developed a corrosion hole from sand moving through the equipment. Approximately 6.5 barrels (bbls) of produced water were released onto the surface of the caliche well pad. The release affected approximately 450 square feet of the well pad. A vacuum truck recovered approximately 6 bbls of free-standing fluids. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on March 30, 2018, and was assigned Remediation Permit (RP) Number 2RP-4686 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on the nearest water well data. The closest permitted water well with depth to water data is New Mexico Office of the Sate Engineer (NM OSE) Well #C01880, located approximately 3,100 feet northwest of the Site. According to the NM OSE database, the well was installed and depth to water was measured in 1979. Based on the age of the well, LTE field personnel field-verified the presence or absence of the well. The well could not be located within an approximate 1,000 foot radius of the coordinates provided by the NM OSE. As part of remediation efforts at a nearby site, Corral Canyon #1H flow line (2RP-5201), LTE installed six monitoring wells (MW01 through MW06) to assess depth to groundwater. The groundwater monitoring wells are located approximately 6,150 feet east of the Site. Static water level measured in monitoring wells MW01 through MW06 on September 13, 2019, ranged from 57.26 feet bgs in monitoring well MW04 to 62.29 feet bgs in monitoring well MW02 with an average depth to water of 58.80 feet bgs. The depth to water measurements are provided in the table below and the location of the monitoring wells is identified on Figure 1.

MONITORING WELL INFORMATION

Sample Name	Total Depth (feet bgs)	Depth to Water (feet bgs)	Sample Date
MW01	68.44	58.17	09/13/2019
MW02	68.10	62.29	09/13/2019
MW03	75.58	58.30	09/13/2019
MW04	69.08	57.26	09/13/2019
MW05	64.80	58.54	09/13/2019
MW06	64.11	58.25	09/13/2019

Notes:
bgs – below ground surface

Based on depth to water measured recently in the nearby monitoring wells, depth to water at the Site is estimated to be between 51 and 100 feet bgs. The closest continuously flowing water or significant watercourse to the Site is the Pecos River, located approximately 1,650 feet northwest 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 AND SOIL SAMPLING ACTIVITIES

On March 20, 2018, LTE personnel inspected the Site to document the release extent based on information provided on the initial Form C-141 and visible observations. The release extent was mapped utilizing a handheld Global Positing System (GPS) unit and is depicted on Figure 2.

During July and October 2019, LTE personnel returned to the site to oversee site assessment activities. Potholes were advanced via track hoe at 10 locations within and around the release extent to assess for the presence or absence of impacted soil. Potholes PH01 through PH10 were advanced to depths ranging from 4.5 fet to 19.5 feet bgs. Delineation soil samples were collected from each pothole from depths ranging from 0.5 feet to 19.5 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 the potholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. The delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico or Xenco Laboratories in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in all soil samples collected from potholes PH01 through PH10. 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 conducted to assess for potential soil impacts resulting from the March 15, 2018, produced water release at the Site. All except 0.5 bbls of released fluids were recovered during initial response activities. Ten potholes (PH01 through PH10) were advanced within and around the release extent to assess for the presence or absence of impacted soil. Laboratory analytical results for the soil samples collected from potholes PH01 through PH10, from depths ranging from 0.5 feet to 19.5 feet bgs, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and no further remediation was required.

Initial response efforts and natural attenuation have mitigated impacts at this Site. Based on visual observations, field screening activities, and laboratory analytical results, no impacted soil was identified as a result of the release. XTO requests no further action for RP Number 2RP-4686. An updated NMOCD Form C-141 is included as 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

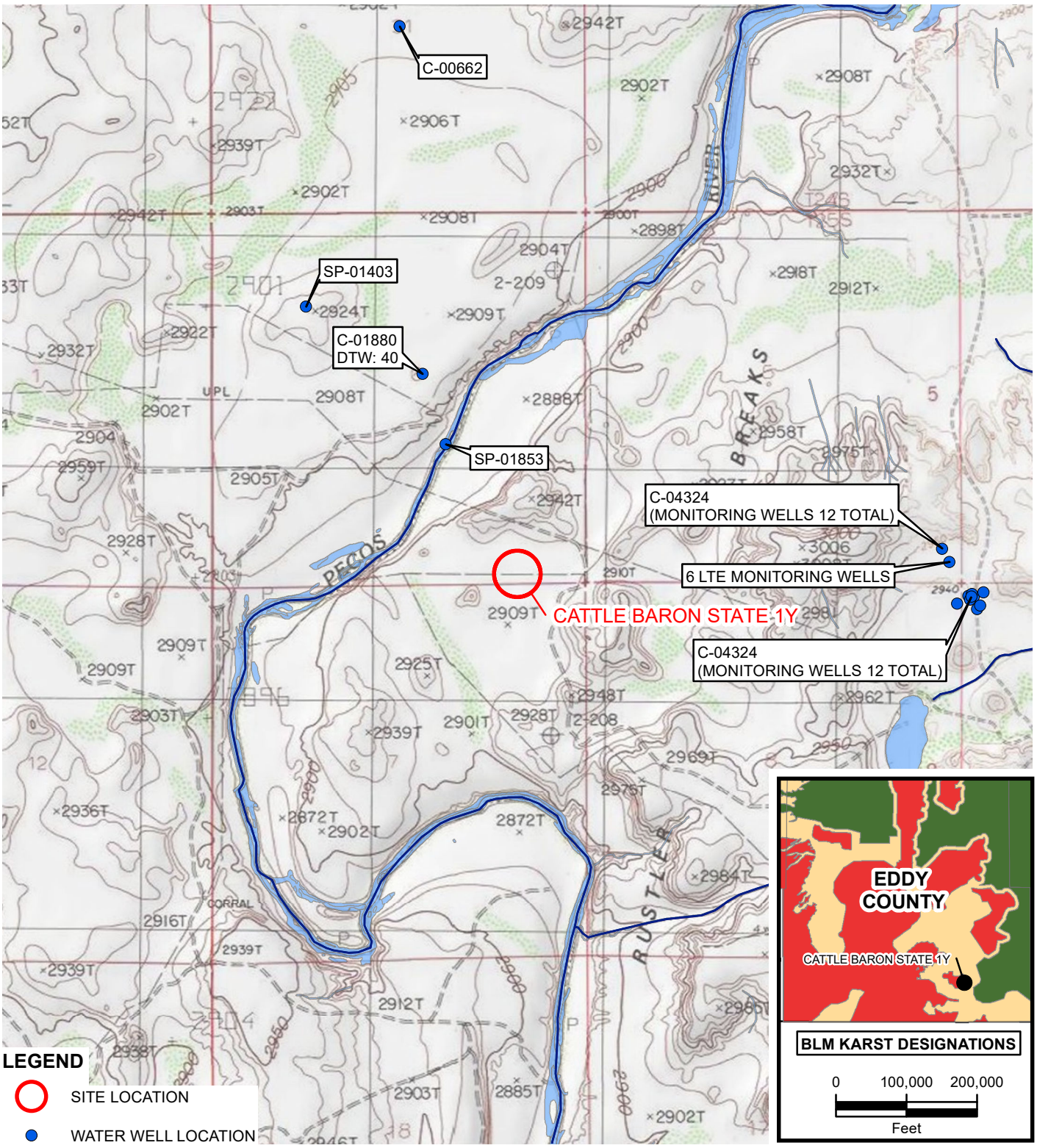
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Ryan Mann, State Land Office

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-4686)
Attachment 2	Lithologic/Soil Sample Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: REMEDIATION PERMIT NUMBER 2RP-4686
DTW: DEPTH TO WATER IN FEET

FIGURE 1
POTENTIAL RECEPTOR MAP
CATTLE BARON STATE #001Y
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918100_CATTLE_BARON_STATE_1Y\012918100_FIG01_RECEPTOR_SL.mxd

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- RELEASE EXTENT

NOTE: REMEDIATION PERMIT NUMBER 2RP-4686

IMAGE COURTESY OF ESRI

0 30 60
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
CATTLE BARON STATE #001Y
UNIT P SEC 6 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918100_CATTLE_BARON_STATE_1Y\012918100_FIG02_DELINEATION_2019.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

CATTLE BARRON STATE #001Y
REMEDIATION PERMIT NUMBER 2RP-4686
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH01	0.5	10/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	15.6
PH01A	4.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	611
PH01B	12	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	356
PH01C	17	07/09/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	1,270
PH02	0.5	07/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	769
PH02A	4.5	07/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	190
PH03	4.5	07/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,290
PH03A	12	07/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,480
PH03B	19.5	07/10/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	1,110
PH04	8	07/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,270
PH04A	15	07/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	958
PH05	3	07/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,790
PH05A	17	07/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	1,200
PH06	8	07/16/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	2,060
PH06A	17	07/16/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	878
PH07	13	07/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	845
PH07A	16	07/16/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	911
PH08	8	07/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,540
PH08A	17.5	07/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	63.3	18.1	63.3	81.4	198
PH09	0.5	10/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	137
PH09A	8	07/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	790
PH09B	18	07/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	816
PH010	10	07/15/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	996
PH010A	19.5	07/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	683
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**

Notes:

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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4686)

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 30 2018
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1809356513

OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Amy C. Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 575-689-3380
Facility Name: Cattle Baron State #001Y	Facility Type: Exploration and Production

Surface Owner: State of NM	Mineral Owner: Unknown	API No: 30-015-44130

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	6	25S	29E	117	South	975	East	Eddy

Latitude 32.152350° **Longitude** -104.018310° NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 6.5 bbls	Volume Recovered: 6 bbls
Source of Release: Kimray dump	Date and Hour of Occurrence: 3/15/2018 time unknown	Date and Hour of Discovery: 3/15/2018 7:15 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
A 2 inch Kimray dump developed a hole due to abrasive corrosion by sand moving through equipment. The dump was replaced.

Describe Area Affected and Cleanup Action Taken.*
The release affected approximately 450 square feet of caliche pad. Free standing fluids were recovered. An environmental contractor will be retained to assist with the delineation and remediation effort.

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: Amy C. Ruth
Title: Environmental Coordinator
E-mail Address: Amy_Ruth@xtoenergy.com
Date: 3/30/2018 Phone: 575-689-3380

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 4/2/18 Expiration Date: N/A

Conditions of Approval: See Attached Attached ☐ 3RP-468

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	2RP-4686
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-4686
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.152350 Longitude W -104.018310
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Cattle Baron State #001Y	Site Type: Production Well Facility
Date Release Discovered: 3/15/2018	API# *(if applicable):* 30-015-44130

Unit Letter	Section	Township	Range	County
P	6	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):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 6.5	Volume Recovered (bbls): 6
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
A 2-inch Kimray dump developed a hole due to abrasive corrosion by sand moving through equipment. The dump was replaced. Free-standing fluids were recovered.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4686
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was less than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? NA	

Initial Response

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

☒ The source of the release has been stopped.

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

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

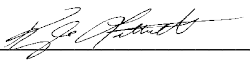
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 2-21-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4686
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-4686
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2-21-2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4686
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2-21-2020

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

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

Identifier:	Date:
PH01	7/9/19
Project Name: Cattle Baron State #001Y	RP Number: 2RP-4686
Logged By: Anna Byers	Method: Track Hoe
Hole Diameter: 2.5' x 10'	Total Depth: 17'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.15237422, -104.0183475
Field Screening: PID / Cl test strips
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
D	435.2	14.1	N			0.5'	pad surface caliche	tan, well graded/poorly sorted silt - gravel size grains
D	224	8.6	N		1	1.0'	SM	brown, poorly graded silt sand (f.), no plasticity
D	224	5.1	N		2	2.0'	SM	"
D	224	4.6	N		3	3.0'	SM	"
					4			
D	1043.2	4.3	N	PH01		4.5'	SM	"
					5			
D	1651.2	13.1	N		6	6.0'	SM	"
					7			
D	1894.4	11.2	N		8	8'	SM	"
					9			
M	2790.4	10.5	N		10	10'	SM	brown, poorly graded silt sand (f.), low plasticity
					11			
					12			

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

Identifier:	Date:
PH01	7/9/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	JRP-4686
Logged By: Anna Byers	**Method:** Track Hoe
Lat/Long: 32.15237422, -104.01831475	**Field Screening:** PID / Cl⁻ test strips
Hole Diameter: 2.5' × 10'	**Total Depth:** 17'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	2976	10.0	N	PH01A	12	12'	SM	brown, well graded silt sand (f.-c.), no plasticity
D	2156.8	7.9	N		14	14'	SM	"
M	2156.8	4.2	N		16	16.5'	SC	brown, well graded clayey sand (m.), low plasticity
1025 D	1542.4	4.0	N	PH01B	17	17'	SM	brown, well-graded silt sand (m.), no plasticity
					18		max	reach 315F track hoe + hard caliche floor
					19			
					20			
					21			
					22			

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Identifier:	Date:
PH02	7/10/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
Logged By: Anna Byers	**Method:** Track Hoe
Lat/Long: 32.152465, -104.018322	**Field Screening:** PID / Cl⁻ test strips
Hole Diameter: 2.5' x 5'	**Total Depth:** 4.5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0955	D	1043.2 (4.0)	7.9	N	PH02	0	0.5'	pad surface caliche	tan, sandy, gravel to sand size grains, no plasticity
1000	D	377.6 (2.2)	6.4	N		1	1.0'	SM	brown dry, well sorted / poorly graded silt sand (f.), no plasticity
1005	D	244 (1.0)	2.6	N		2	2.0'	SM	"
1010	D	185.6 (1.4)	2.4	N		3	3.0'	SM	"
1015	D	499.2 (2.0)	3.0	N	PH02A	4	4.5'	SW-SM	poorly sorted ~~graded~~, brown silt sand (f.) no plasticity
						5			
						6			
						7			
						8			
						9			
						10			
						11			
						12			

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

Identifier:	Date:
PH03	7/10/19
Project Name: Cattle Baron State #001Y	RP Number: 2RP-4686
Logged By: Anna Byers	Method: Track Hoe
Hole Diameter: 2.5' x 12'	Total Depth: 19.5'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.152453, -104.018460
Field Screening: PID / Cl⁻ test strips

Comments: Sample # Cl⁻ ppm

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1030	D	(2.2)	5.4	N	377.6 (2.2)	0	0.5'	SM	brown, poorly graded silt sand (f.), no plasticity
1032	D		5.1		224 (1.6)	1	1'	SM	"
1035	D		5.3		320 (2.0)	2	2	SM	"
1037	D		5.8		960 (3.8)	3	3	SM	"
1040	M		4.1	PH03	1022.4 (3.8)	4	4.5	SM	" low plasticity
1100	D		4.8		1894.4 (5.6)	5 6 7	6.0'	SM	" no plasticity
1105	D		2.7		1894.4 (5.6)	8 9	9'	SM	" no plasticity
1110	D		2.9		2022.4 (5.8)	10 11 12	10'	SM	"

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier:	Date:
PH03	7/10/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long: 32.152453, -104.018460	Field Screening: PID / Cl- test strips
Hole Diameter: 2.5' x 12'	Total Depth: 19.5'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1120 M ~~1120~~	2451.2 (64)	5.8	N	PH03A	12	12'		" low plasticity, organics : eg. roots
1125 D ~~1125~~	2304 (6.2)	3.2	N		14	14'		brown, well graded silt sand (f.), low plasticity, organic contents (eg. roots)
1135 D	1651.2 (5.2)	2.8	N		16	16'	caliche	tan, poorly sorted, sand - gravel size grains, no plasticity
1150 D	1772.8 (5.4)	6.5	N		18	18'	caliche	compact! "
1200 D	1542.4 (5.0)	1.4	N	PH03B	20	19.5'	caliche	"
					21			
					22			

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Carlsbad, New Mexico 88220
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Identifier:	Date:
PH04	7/10/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long: 32.152361, -104.08459	Field Screening: PID / Cl- test strips
Hole Diameter: 2.5' x 18'	Total Depth: 15'

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1250	D	793.6	37.1	N		0	0.5	pad surface caliche	tan poorly sorted grains - sand(m.) - gravel
1255	D	320	45.7	N		1	1.0'	SM	brown, poorly graded silt sand (f.), no plasticity
1300	D	<185.6	35.3	N		2	2.0'	SM	"
1305	D	<185.6	*	N		3	3.0'	SM	"
						4			
1310	D	<185.6	*	N			4.5'	SM	"
						5			
1355	D	320 (2.0)	*	N		6	6'	SM	"
						7			
1405	M	2022.4 (5.0)	*	N	PH04	8	8'	SC	Mod plasticity, poorly graded clayey sand (f.), brown
						9			
1415	M	1381.2	*	N		10	10'	SC	"
						11			
						12			

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Carlsbad, New Mexico 88220
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Identifier:	Date:
PH04	7/10/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long: 32.152361, -104.018459	Field Screening: PID / Cl⁻ test strips
Hole Diameter: 2.5' x 10'	Total Depth: 15'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					10			
					11			
					12	12'		
1420 M	1139.2				13	13'	SC	brown poorly sorted / well graded clayey sand (f.), low plasticity
					14	14'		
1425 D	7936			PH04A	15	15'	SW-SM	* silt sand / caliche interface * poorly sorted / well graded silt sand (f.), no plasticity
					16			
					17			
					18	18'		
					19			
					20			
					21			
					22			

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Identifier:	Date:
PHOS	7/11/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long:	Field Screening: PID / Cl⁻ test strips / Hole Diameter: 2.5' x / Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1120 D	3392	~~41.7~~ ~~35.0~~	N		0	0.5	SM	poorly graded, brown silt sand (f.), no plasticity, roots
1130 D	2304	<15	N		1	1.0	SM	"
1140 D	3174.4		N		2	2.0	SM	"
1150	3997.6		N		3	3.0	SM	"
					4	~~4.0~~		
1200 M	320		N		5	4.5'	SC	poorly graded brown clayey sand (f.), low plasticity roots
1215 M	377.6 / 221		N		6	6.0'	SM	poorly graded, brown silt sand (f.) no plasticity, roots
					7			
1220 M	1139.2 (4.2)		N		8	8'	SM	"
					9			
1230 M	1139.2 4.2		N		10	10'	SM	"
					11			
1235 M	1899.4 5.6		N		12	12'	SM	"

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Identifier:	Date:
PH05	7/11/15
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long:	Field Screening: PID / Cl- test strips / Hole Diameter: 2.5' x 12' / Total Depth: 17'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1335 M	21568 (16.0)	<15	N		14	14'	SM	"
1300 M	2022.4 (5.8)		N		16	16'	caliche	well cemented, pink-tan well sorted matrix : sand (f-c.) with sub-rounded gravel sized clasts varied in color
1425 M	1899.4 (5.6)		N		17	17'	caliche	

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Identifier:	Date:
PH06	7/15/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
Logged By: Anna Byers	**Method:** Track Hoe
Hole Diameter: 2.5' x 12'	**Total Depth:** 19.5'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: PID / Cl- test strips

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
D	320		N			0.5'	SM	brown, poorly graded silt sand (f.), no plasticity, roots
D	<185.6		N		1	1.0'	SM	"
D	<185.6				2	2'	SM	
D	<185.6		N		3	3'	SM	
					4			
D	<185.6		N		5	4.5'	SM	
M	1331.2		N		6	6'	SM	low plasticity "
					7			
M	2156.8		N		8	8'	SM	low plasticity "
					9			
M	3174.9		N		10	10'	SC	low plasticity "
					11			
					12			

1050
1100
1105
1110
1115
1120
1125
1130

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Identifier:	Date:
PH07	7/15/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
Logged By: Anna Byers	**Method:** Track Hoe
Lat/Long: 32.152117, -104.018569	**Field Screening:** PID / Cl⁻ test strips
Hole Diameter: 2.5' x 10'	**Total Depth:** 10'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1215	D	<185.6		N		0	0.5'	SW-SM	well graded brown silt sand (f.), no plasticity
1220	D	<185.6		N		1	1	SM	poorly graded brown silt sand (f.), no plasticity
1225	D	<185.6		N		2	2	SW-SM	well graded brown silt sand (f.), no plasticity
1230	D	<185.6		N		3	3	SM	poorly graded brown silt sand (f.), no plasticity
1235	D	<185.6		N		4	4.5'	SM	"
1245	M	<185.6		N		5	6'	SM	"
1250	M	<185.6		N		6	8'	SC	poorly graded brown clayey sand (f.), low plasticity
1255	M	<185.6		N		7	10'	SC	"
						8			
						9			
						10			
						11			
						12			

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Identifier:	Date:
PH08	7/15/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long:	Field Screening: PID / Cl⁻ test strips / Hole Diameter: 2.5' x 10' / Total Depth: 10'

Comments:

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1315	D	<185.6		N		0	0.5'	caliche	
1317	D	268.8		N		1	1	SM	poorly graded brown silt sand (f.), no plasticity, roots
1320	D	960		N		2	2	SM	"
1322	D	1512.4		N		3	3	SM	"
						4			
1325	D	1772.8		N		5	4.5'	SM	"
1335	D	1043.2		N		6	6'	SM	"
						7			
1340	M	<185.6		N		8	8'	SC	brown poorly graded clayey sand (f.), low plasticity
						9			
						10	10'	SW-SM	
1345	M	499.2		N		11			brown well graded silt sand (f.), low - no plasticity
						12			

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Carlsbad, New Mexico 88220
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Identifier:	Date:
PH09	7/15/19
Project Name:	**RP Number:**
Cattle Baron State #001Y	2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers / Method: Track Hoe
Lat/Long: 32.152339, -104.018506	Field Screening: PID / Cl- test strips / Hole Diameter: 2.5' x 10' / Total Depth: 15'

Comments:

Time	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1400	D	499.2		N		0	0.5'	SM	brown, poorly graded silt sand (f.), no plasticity
1405	D	320		N		1	1	SM	"
1410	D	<185.6		N		2	2	SM	"
1415	D	<185.6		N		3	3	SM	"
1420	M	<185.6		N		4	4.5'	SC	brown poorly graded clayey sand (f.), mod plasticity, roots
1440	M	<185.6		N		6	6'	SM	brown, poorly graded silt sand (f.), no plasticity
1445	M	1772.8		N		8	8'	SM	"
1450	M	2156.8		N		10	10'	SC	brown, poorly graded, clayey sand (f.), mod plasticity
						11			
						12			

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Carlsbad, New Mexico 88220
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Identifier:	Date:
PH0	7/15/19
Project Name: #0014 Cattle Baron State	**RP Number:** 2RP-4686
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: A Byers / Method: Track Hoe
Lat/Long:	Field Screening: PID + Cl- test strips / Hole Diameter: 2.5' x 10' / Total Depth: 11.5'
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1540 D	<185.4		N		0	0.5'	SW	well graded gravelly sand (c.), grey-brown; no plasticity
1545 D	1772.8		N		1	1	SM	brown poorly graded silt sand (f.), no plasticity
1550 D	<185.6		N		2	2	SM	"
1600 M	2790.4		N		3	3	SM	"
1605 M	960		N		4	4.5'	SM	"
1620 M	793.6		N		5	6'	SM	"
1625 M	1651.2		N		6	8'	SC	brown, poorly graded clayey sand (f.), mod plasticity
1630 M	1894.4		N		7	10'	SW-SC	brown, well graded clayey sand (f.) mod plasticity
1655 D	1894.4		N		8	11.5'	Caliche	sandy (m-c.) matrix well cemented, very poorly sorted with subrounded clasts, gravel size
					9			
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View of release area during site assessment activities.

Photograph 2: View of release area during site assessment activities.

Photograph 3: View of release area during site assessment activities.

Photograph 4: View of release area during site assessment activities.

Cattle Baron State #001Y
Eddy County, New Mexico
Photographs Taken: July 2019

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 630366

for

LT Environmental, Inc.

Project Manager: Dan Moir

Cattle Baron State IY

012918100

15-JUL-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

15-JUL-19

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

Reference: XENCO Report No(s): **630366**
Cattle Baron State IY
Project Address: Delaware Basin

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) 630366. 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. 630366 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 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	07-09-19 15:05	4.5 ft	630366-001
PH01A	S	07-09-19 15:52	12 ft	630366-002
PH01B	S	07-09-19 16:25	17 ft	630366-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Cattle Baron State IY

Project ID: *012918100*
Work Order Number(s): *630366*

Report Date: *15-JUL-19*
Date Received: *07/10/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095240 BTEX by EPA 8021B

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

Certificate of Analysis Summary 630366

LT Environmental, Inc., Arvada, CO

Project Name: Cattle Baron State IY

Project Id: 012918100
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jul-10-19 12:02 pm
Report Date: 15-JUL-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	630366-001		630366-002		630366-003					
	Field Id:	PH01		PH01A		PH01B					
	Depth:	4.5- ft		12- ft		17- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jul-09-19 15:05		Jul-09-19 15:52		Jul-09-19 16:25					
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jul-11-19 11:30		Jul-11-19 11:30		Jul-11-19 11:30					
	Analyzed:	Jul-13-19 03:54		Jul-13-19 04:18		Jul-13-19 04:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00404	0.00404				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202				
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jul-11-19 11:30		Jul-11-19 11:30		Jul-11-19 11:30					
	Analyzed:	Jul-11-19 13:02		Jul-11-19 13:07		Jul-11-19 13:12					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		611	4.99	356	4.95	1270	5.04				
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00					
	Analyzed:	Jul-14-19 15:07		Jul-14-19 15:32		Jul-14-19 16:21					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0				

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id: **PH01** Matrix: Soil Date Received:07.10.19 12.02

Lab Sample Id: 630366-001 Date Collected: 07.09.19 15.05 Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.11.19 11.30 Basis: Wet Weight

Seq Number: 3095093 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**611**	4.99	mg/kg	07.11.19 13.02		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight

Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 15.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 15.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 15.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 15.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 15.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.14.19 15.07	
o-Terphenyl	84-15-1	105	%	70-135	07.14.19 15.07	

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	07.10.19 12.02
Lab Sample Id:	630366-001	Date Collected:	07.09.19 15.05	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.11.19 11.30	Basis:	Wet Weight
Seq Number:	3095240			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.13.19 03.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.13.19 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	07.13.19 03.54	
4-Bromofluorobenzene	460-00-4	110	%	70-130	07.13.19 03.54	

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id: **PH01A** Matrix: Soil Date Received:07.10.19 12.02

Lab Sample Id: 630366-002 Date Collected: 07.09.19 15.52 Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.11.19 11.30 Basis: Wet Weight

Seq Number: 3095093 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**356**	4.95	mg/kg	07.11.19 13.07		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight

Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 15.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 15.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 15.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 15.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 15.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.14.19 15.32	
o-Terphenyl	84-15-1	113	%	70-135	07.14.19 15.32	

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	07.10.19 12.02
Lab Sample Id:	630366-002	Date Collected:	07.09.19 15.52	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.11.19 11.30	Basis:	Wet Weight
Seq Number:	3095240			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.13.19 04.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.13.19 04.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	07.13.19 04.18	
4-Bromofluorobenzene	460-00-4	110	%	70-130	07.13.19 04.18	

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id: **PH01B** Matrix: Soil Date Received:07.10.19 12.02

Lab Sample Id: 630366-003 Date Collected: 07.09.19 16.25 Sample Depth: 17 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.11.19 11.30 Basis: Wet Weight

Seq Number: 3095093 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	5.04	mg/kg	07.11.19 13.12		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.14.19 08.00 Basis: Wet Weight

Seq Number: 3095300 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 16.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 16.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 16.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 16.21	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.14.19 16.21	
o-Terphenyl	84-15-1	84	%	70-135	07.14.19 16.21	

Certificate of Analytical Results 630366

LT Environmental, Inc., Arvada, CO

Cattle Baron State IY

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	07.10.19 12.02
Lab Sample Id:	630366-003	Date Collected:	07.09.19 16.25	Sample Depth:	17 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.11.19 11.30	Basis:	Wet Weight
Seq Number:	3095240			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	07.13.19 04.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.13.19 04.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.13.19 04.41	
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.13.19 04.41	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 630366

LT Environmental, Inc.

Cattle Baron State IY

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095093 Matrix: Solid Date Prep: 07.11.19
MB Sample Id: 7681805-1-BLK LCS Sample Id: 7681805-1-BKS LCSD Sample Id: 7681805-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	253	101	257	103	90-110	2	20	mg/kg	07.11.19 12:09	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095093 Matrix: Soil Date Prep: 07.11.19
Parent Sample Id: 630267-009 MS Sample Id: 630267-009 S MSD Sample Id: 630267-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	207	250	466	104	466	104	90-110	0	20	mg/kg	07.11.19 13:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095093 Matrix: Soil Date Prep: 07.11.19
Parent Sample Id: 630510-005 MS Sample Id: 630510-005 S MSD Sample Id: 630510-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.4	252	371	111	368	109	90-110	1	20	mg/kg	07.11.19 12:23	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095300 Matrix: Solid Date Prep: 07.14.19
MB Sample Id: 7681990-1-BLK LCS Sample Id: 7681990-1-BKS LCSD Sample Id: 7681990-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1020	102	70-135	7	20	mg/kg	07.14.19 10:15	
Diesel Range Organics (DRO)	<8.13	1000	1150	115	1140	114	70-135	1	20	mg/kg	07.14.19 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		90		90		70-135	%	07.14.19 10:15
o-Terphenyl	94		99		98		70-135	%	07.14.19 10:15

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

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

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

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

QC Summary 630366

LT Environmental, Inc.

Cattle Baron State IY

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3095300 — Matrix: Soil — Date Prep: 07.14.19
Parent Sample Id: 630600-001 — MS Sample Id: 630600-001 S — MSD Sample Id: 630600-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.7	997	1030	102	1060	105	70-135	3	20	mg/kg	07.14.19 11:28	
Diesel Range Organics (DRO)	26.9	997	1160	114	1190	117	70-135	3	20	mg/kg	07.14.19 11:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		94		70-135	%	07.14.19 11:28
o-Terphenyl	115		117		70-135	%	07.14.19 11:28

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3095240 — Matrix: Solid — Date Prep: 07.11.19
MB Sample Id: 7681835-1-BLK — LCS Sample Id: 7681835-1-BKS — LCSD Sample Id: 7681835-1-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	0.0878	88	0.0885	89	70-130	1	35	mg/kg	07.12.19 19:50	
Toluene	0.000680	0.100	0.0951	95	0.0977	98	70-130	3	35	mg/kg	07.12.19 19:50	
Ethylbenzene	<0.00200	0.100	0.100	100	0.108	108	70-130	8	35	mg/kg	07.12.19 19:50	
m,p-Xylenes	<0.00101	0.200	0.198	99	0.208	104	70-130	5	35	mg/kg	07.12.19 19:50	
o-Xylene	0.000610	0.100	0.0945	95	0.104	104	70-130	10	35	mg/kg	07.12.19 19:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		93		92		70-130	%	07.12.19 19:50
4-Bromofluorobenzene	108		98		100		70-130	%	07.12.19 19:50

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3095240 — Matrix: Soil — Date Prep: 07.11.19
Parent Sample Id: 630249-001 — MS Sample Id: 630249-001 S — MSD Sample Id: 630249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000640	0.0996	0.0514	51	0.0467	46	70-130	10	35	mg/kg	07.12.19 20:36	X
Toluene	0.00361	0.0996	0.0500	47	0.0465	42	70-130	7	35	mg/kg	07.12.19 20:36	X
Ethylbenzene	0.00531	0.0996	0.0469	42	0.0624	57	70-130	28	35	mg/kg	07.12.19 20:36	X
m,p-Xylenes	0.0147	0.199	0.0836	35	0.0800	32	70-130	4	35	mg/kg	07.12.19 20:36	X
o-Xylene	0.0128	0.0996	0.0463	34	0.0464	33	70-130	0	35	mg/kg	07.12.19 20:36	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		86		70-130	%	07.12.19 20:36
4-Bromofluorobenzene	113		112		70-130	%	07.12.19 20:36

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

Chain of Custody

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

Work Order No: 630316

Page 1 of 1

Project Manager:	DAN MOIR	Bill to: (if different)	KYLE LITTRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO ENERGY
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432-236-3849	Email:	abyers@ltenv.com

Work Order Comments

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

Project Name:	Cattle Baron State 1Y	Turn Around	
Project Number:	012918100	Routine	☐
P.O. Number:	2RP-4686	Rush:	3day
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	7.3?	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 8021)	Chloride (EPA 300.0)
PH01	S	7/9/19	1505	4.5'	1	X	X	X
PH01A	S	7/9/19	1552	12'	1	X	X	X
PH01B	S	7/9/19	1625	17'	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
Anna Byers		7/10/2019 11:37 AM	2		7/10/19 12:02
			4		
			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **43102**

Date/Time: 07/10/19 13:32
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 775682261490

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630366-001	S	PH01	07/09/19 15:05	SW8021B	BTEX by EPA 8021B	07/12/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630366-001	S	PH01	07/09/19 15:05	SW8015MOD_NM	TPH by SW8015 Mod	07/12/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630366-001	S	PH01	07/09/19 15:05	E300_CL	Chloride by EPA 300	07/12/19	01/05/20	JKR	CL	
630366-002	S	PH01A	07/09/19 15:52	SW8015MOD_NM	TPH by SW8015 Mod	07/12/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630366-002	S	PH01A	07/09/19 15:52	SW8021B	BTEX by EPA 8021B	07/12/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630366-002	S	PH01A	07/09/19 15:52	E300_CL	Chloride by EPA 300	07/12/19	01/05/20	JKR	CL	
630366-003	S	PH01B	07/09/19 16:25	SW8015MOD_NM	TPH by SW8015 Mod	07/12/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630366-003	S	PH01B	07/09/19 16:25	SW8021B	BTEX by EPA 8021B	07/12/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630366-003	S	PH01B	07/09/19 16:25	E300_CL	Chloride by EPA 300	07/12/19	01/05/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 07/10/2019

Received By: Brianna Teel

Date Received: 07/11/2019 11:42

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43102

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

Sent By: Elizabeth McClellan **Date Sent:** 07/10/2019 01:32 PM

Received By: Brianna Teel **Date Received:** 07/11/2019 11:42 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 07/11/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/10/2019 12:02:00 PM

Work Order #: 630366

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)?	7.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 07/10/2019

Checklist reviewed by: Kelsey Brooks Date: 07/11/2019

Analytical Report 630715

for

LT Environmental, Inc.

Project Manager: Dan Moir

Cattle Baron State 1Y

012918100

15-JUL-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

15-JUL-19

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

Reference: XENCO Report No(s): **630715**
Cattle Baron State 1Y
Project Address: Delaware Basin

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) 630715. 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. 630715 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 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH02	S	07-10-19 09:55	0.5 ft	630715-001
PH02A	S	07-10-19 10:15	4.5 ft	630715-002
PH03	S	07-10-19 10:40	4.5 ft	630715-003
PH03A	S	07-10-19 11:20	12 ft	630715-004
PH03B	S	07-10-19 12:00	19.5 ft	630715-005
PH04	S	07-10-19 14:05	8 ft	630715-006
PH04A	S	07-10-19 14:25	15 ft	630715-007

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Cattle Baron State 1Y

Project ID: *012918100*
Work Order Number(s): *630715*

Report Date: *15-JUL-19*
Date Received: *07/12/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095354 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 630715-007.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 630715

LT Environmental, Inc., Arvada, CO

Project Name: Cattle Baron State 1Y

Project Id: 012918100
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Fri Jul-12-19 11:34 am
Report Date: 15-JUL-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	630715-001		630715-002		630715-003		630715-004		630715-005		630715-006	
	Field Id:	PH02		PH02A		PH03		PH03A		PH03B		PH04	
	Depth:	0.5- ft		4.5- ft		4.5- ft		12- ft		19.5- ft		8- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-19 09:55		Jul-10-19 10:15		Jul-10-19 10:40		Jul-10-19 11:20		Jul-10-19 12:00		Jul-10-19 14:05	
BTEX by EPA 8021B	*Extracted:*	Jul-12-19 16:35		Jul-12-19 16:35		Jul-12-19 16:35		Jul-12-19 16:35		Jul-12-19 16:35		Jul-12-19 16:35	
	Analyzed:	Jul-14-19 10:07		Jul-14-19 10:30		Jul-14-19 10:53		Jul-14-19 11:16		Jul-14-19 11:39		Jul-14-19 12:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00403	0.00403	<0.00403	0.00403	<0.00399	0.00399	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	*Extracted:*	Jul-12-19 14:00		Jul-12-19 14:00		Jul-12-19 14:00		Jul-12-19 14:00		Jul-12-19 14:00		Jul-12-19 14:00	
	Analyzed:	Jul-12-19 14:06		Jul-12-19 14:11		Jul-12-19 14:16		Jul-12-19 14:30		Jul-12-19 14:35		Jul-12-19 14:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		769	4.99	190	5.00	1290	5.02	1480	25.0	1110	5.05	1270	24.9
TPH by SW8015 Mod	*Extracted:*	Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00	
	Analyzed:	Jul-14-19 16:45		Jul-14-19 17:10		Jul-14-19 17:35		Jul-14-19 18:00		Jul-14-19 18:24		Jul-14-19 18:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 630715

LT Environmental, Inc., Arvada, CO

Project Name: Cattle Baron State 1Y

Project Id: 012918100
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Fri Jul-12-19 11:34 am
Report Date: 15-JUL-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	630715-007					
	Field Id:	PH04A					
	Depth:	15- ft					
	Matrix:	SOIL					
	Sampled:	Jul-10-19 14:25					
BTEX by EPA 8021B	***Extracted:***	Jul-12-19 16:35					
	Analyzed:	Jul-14-19 13:31					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00399 0.00399					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	***Extracted:***	Jul-12-19 14:00					
	Analyzed:	Jul-12-19 14:45					
	Units/RL:	mg/kg RL					
Chloride		958 4.96					
TPH by SW8015 Mod	***Extracted:***	Jul-14-19 08:00					
	Analyzed:	Jul-14-19 19:13					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0					
Total TPH		<15.0 15.0					
Total GRO-DRO		<15.0 15.0					

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-001	Date Collected:	07.10.19 09.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**769**	4.99	mg/kg	07.12.19 14.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 16.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 16.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 16.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 16.45	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 16.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.14.19 16.45	
o-Terphenyl	84-15-1	111	%	70-135	07.14.19 16.45	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-001	Date Collected:	07.10.19 09.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.14.19 10.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.14.19 10.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.14.19 10.07	
1,4-Difluorobenzene	540-36-3	87	%	70-130	07.14.19 10.07	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-002	Date Collected:	07.10.19 10.15	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**190**	5.00	mg/kg	07.12.19 14.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 17.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 17.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 17.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 17.10	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	07.14.19 17.10	
o-Terphenyl	84-15-1	122	%	70-135	07.14.19 17.10	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-002	Date Collected:	07.10.19 10.15	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.14.19 10.30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.14.19 10.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.14.19 10.30	
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.14.19 10.30	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-003	Date Collected:	07.10.19 10.40	Sample Depth:	4.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1290**	5.02	mg/kg	07.12.19 14.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 17.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 17.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 17.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 17.35	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 17.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.14.19 17.35	
o-Terphenyl	84-15-1	92	%	70-135	07.14.19 17.35	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-003	Date Collected:	07.10.19 10.40	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.14.19 10.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.14.19 10.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	07.14.19 10.53	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.14.19 10.53	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-004	Date Collected:	07.10.19 11.20	Sample Depth:	12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1480**	25.0	mg/kg	07.12.19 14.30		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 18.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 18.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 18.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 18.00	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 18.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	07.14.19 18.00	
o-Terphenyl	84-15-1	117	%	70-135	07.14.19 18.00	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-004	Date Collected:	07.10.19 11.20	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.14.19 11.16	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.14.19 11.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	07.14.19 11.16	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.14.19 11.16	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-005	Date Collected:	07.10.19 12.00	Sample Depth:	19.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1110**	5.05	mg/kg	07.12.19 14.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.14.19 18.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.14.19 18.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.14.19 18.24	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.14.19 18.24	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.14.19 18.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.14.19 18.24	
o-Terphenyl	84-15-1	98	%	70-135	07.14.19 18.24	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-005	Date Collected:	07.10.19 12.00	Sample Depth:	19.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.14.19 11.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.14.19 11.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	07.14.19 11.39	
4-Bromofluorobenzene	460-00-4	111	%	70-130	07.14.19 11.39	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-006	Date Collected:	07.10.19 14.05	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	24.9	mg/kg	07.12.19 14.40		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 18.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 18.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 18.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 18.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 18.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	07.14.19 18.49	
o-Terphenyl	84-15-1	111	%	70-135	07.14.19 18.49	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-006	Date Collected:	07.10.19 14.05	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.14.19 12.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.14.19 12.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.14.19 12.02	
1,4-Difluorobenzene	540-36-3	88	%	70-130	07.14.19 12.02	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-007	Date Collected:	07.10.19 14.25	Sample Depth:	15 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.12.19 14.00	Basis:	Wet Weight
Seq Number:	3095271				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**958**	4.96	mg/kg	07.12.19 14.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 19.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 19.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 19.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 19.13	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.14.19 19.13	
o-Terphenyl	84-15-1	115	%	70-135	07.14.19 19.13	

Certificate of Analytical Results 630715

LT Environmental, Inc., Arvada, CO

Cattle Baron State 1Y

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	07.12.19 11.34
Lab Sample Id:	630715-007	Date Collected:	07.10.19 14.25	Sample Depth:	15 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	AMB	Date Prep:	07.12.19 16.35	Basis:	Wet Weight
Seq Number:	3095354				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.14.19 13.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.14.19 13.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	132	%	70-130	07.14.19 13.31	**
1,4-Difluorobenzene	540-36-3	80	%	70-130	07.14.19 13.31	

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 630715

LT Environmental, Inc.

Cattle Baron State 1Y

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095271 Matrix: Solid Date Prep: 07.12.19
MB Sample Id: 7681889-1-BLK LCS Sample Id: 7681889-1-BKS LCSD Sample Id: 7681889-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	243	97	239	96	90-110	2	20	mg/kg	07.12.19 11:36	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095271 Matrix: Soil Date Prep: 07.12.19
Parent Sample Id: 630529-010 MS Sample Id: 630529-010 S MSD Sample Id: 630529-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	57.1	248	306	100	305	100	90-110	0	20	mg/kg	07.12.19 11:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095271 Matrix: Soil Date Prep: 07.12.19
Parent Sample Id: 630576-001 MS Sample Id: 630576-001 S MSD Sample Id: 630576-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	840	248	1030	77	1030	77	90-110	0	20	mg/kg	07.12.19 13:56	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095300 Matrix: Solid Date Prep: 07.14.19
MB Sample Id: 7681990-1-BLK LCS Sample Id: 7681990-1-BKS LCSD Sample Id: 7681990-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1020	102	70-135	7	20	mg/kg	07.14.19 10:15	
Diesel Range Organics (DRO)	<8.13	1000	1150	115	1140	114	70-135	1	20	mg/kg	07.14.19 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		90		90		70-135	%	07.14.19 10:15
o-Terphenyl	94		99		98		70-135	%	07.14.19 10:15

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 630715

LT Environmental, Inc.

Cattle Baron State 1Y

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095300 Matrix: Soil Date Prep: 07.14.19
Parent Sample Id: 630600-001 MS Sample Id: 630600-001 S MSD Sample Id: 630600-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.7	997	1030	102	1060	105	70-135	3	20	mg/kg	07.14.19 11:28	
Diesel Range Organics (DRO)	26.9	997	1160	114	1190	117	70-135	3	20	mg/kg	07.14.19 11:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		94		70-135	%	07.14.19 11:28
o-Terphenyl	115		117		70-135	%	07.14.19 11:28

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3095354 Matrix: Solid Date Prep: 07.12.19
MB Sample Id: 7681939-1-BLK LCS Sample Id: 7681939-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0727	73	70-130	mg/kg	07.14.19 06:55	
Toluene	<0.00200	0.100	0.0982	98	70-130	mg/kg	07.14.19 06:55	
Ethylbenzene	<0.00200	0.100	0.111	111	70-130	mg/kg	07.14.19 06:55	
m,p-Xylenes	<0.00101	0.200	0.221	111	70-130	mg/kg	07.14.19 06:55	
o-Xylene	<0.00200	0.100	0.105	105	70-130	mg/kg	07.14.19 06:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		85		70-130	%	07.14.19 06:55
4-Bromofluorobenzene	110		109		70-130	%	07.14.19 06:55

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3095354 Matrix: Soil Date Prep: 07.12.19
Parent Sample Id: 630761-001 MS Sample Id: 630761-001 S MSD Sample Id: 630761-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0722	72	0.0727	73	70-130	1	35	mg/kg	07.14.19 07:18	
Toluene	<0.00200	0.100	0.0963	96	0.0963	96	70-130	0	35	mg/kg	07.14.19 07:18	
Ethylbenzene	<0.00200	0.100	0.109	109	0.109	109	70-130	0	35	mg/kg	07.14.19 07:18	
m,p-Xylenes	<0.00401	0.200	0.214	107	0.212	106	70-130	1	35	mg/kg	07.14.19 07:18	
o-Xylene	<0.00200	0.100	0.101	101	0.101	101	70-130	0	35	mg/kg	07.14.19 07:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		85		70-130	%	07.14.19 07:18
4-Bromofluorobenzene	116		117		70-130	%	07.14.19 07:18

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

XENCO LABORATORIES

Chain of Custody

Work Order No: 1030715

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

www.xenco.com Page 1 of 1

Project Manager:	DAN MOIR	Bill to: (if different)	KYLE LITTRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO ENERGY
Address:	3300 NORTH A STREET	Address:	3104 E. GREENE STREET
City, State ZIP:	MIDLAND TX 79705	City, State ZIP:	CARLSBAD NM 88220
Phone:	(432)236-3849 Email:		abyers@ltenv.com & dmoir@ltenv.com

Work Order Comments

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

Project Name:	CATTLEBARON STATE 1Y	Turn Around	
Project Number:	012918100	Routine ☐	
P.O. Number:	2RP-4686	Rush: same day	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.6/0.4	Thermometer ID:	IR
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
PH02	S	7/10/19	0955	0.5'	1	X	X	X	
PH02A	S		1015	4.5'	1	X	X	X	
PH03	S		1040	4.5'	1	X	X	X	
PH03A	S		1120	12'	1	X	X	X	
PH03B	S		1200	19.5'	1	X	X	X	
PH04	S		1405	8'	1	X	X	X	
PH04A	S		1425	15'	1	X	X	X	
	S								

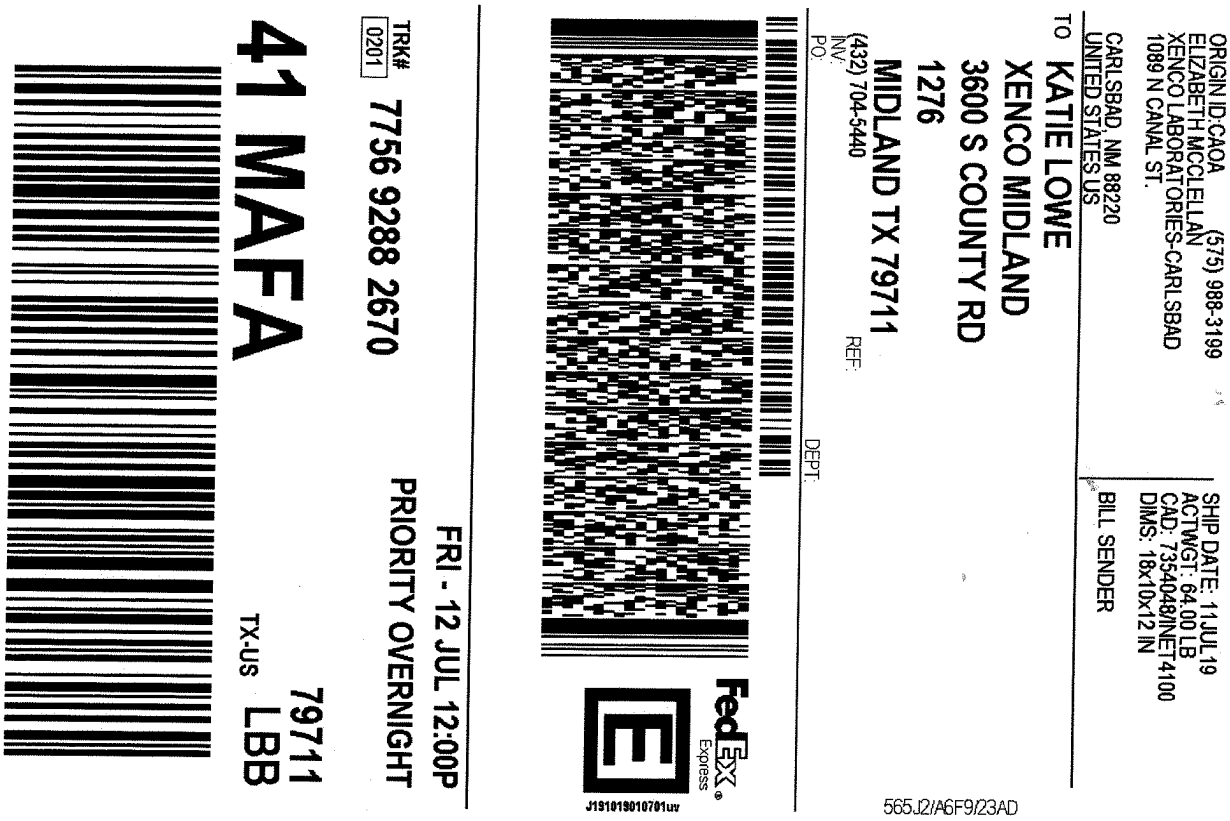
Work Order Notes

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Anna Byers	Robert Maples	07/11/19 @ 1240	2		7/11/19 1248
3	~~FedEx~~	~~FedEx~~ 7/11/19		4		
5		FedEx	7/11/19 1400	6		7/12/19 1134

Revised Date 051418 Rev. 2018.1



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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/12/2019 11:34:00 AM

Work Order #: 630715

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/12/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/12/2019

Jessica Kramer

Analytical Report 631258

for

LT Environmental, Inc.

Project Manager: Dan Moir

Cattle Baron State 001Y

012918100

22-JUL-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

22-JUL-19

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

Reference: XENCO Report No(s): **631258**
Cattle Baron State 001Y
Project Address: Eddy County (Rural)

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) 631258. 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. 631258 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

Sample Cross Reference 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH06	S	07-16-19 13:40	8 ft	631258-001
PH06A	S	07-16-19 14:00	17 ft	631258-002
PH07	S	07-16-19 15:18	13 ft	631258-003
PH07A	S	07-16-19 15:36	16 ft	631258-004
PH08	S	07-16-19 16:30	8 ft	631258-005
PH08A	S	07-16-19 16:50	17.5 ft	631258-006
PH09	S	07-16-19 10:50	8 ft	631258-007
PH09A	S	07-16-19 11:30	18 ft	631258-008
PH010	S	07-15-19 11:30	10 ft	631258-009
PH010A	S	07-15-19 12:05	19.5 ft	631258-010

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Cattle Baron State 001Y

Project ID: *012918100*
Work Order Number(s): *631258*

Report Date: *22-JUL-19*
Date Received: *07/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095867 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Samples affected are: 7682339-1-BKS,7682339-1-BSD.

Batch: LBA-3095966 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 631258

LT Environmental, Inc., Arvada, CO

Project Name: Cattle Baron State 001Y

Project Id: 012918100
Contact: Dan Moir
Project Location: Eddy County (Rural)

Date Received in Lab: Wed Jul-17-19 03:08 pm
Report Date: 22-JUL-19
Project Manager: Jessica Kramer

Analysis Requested		631258-001		631258-002		631258-003		631258-004		631258-005		631258-006	
	Field Id:	PH06		PH06A		PH07		PH07A		PH08		PH08A	
	Depth:	8- ft		17- ft		13- ft		16- ft		8- ft		17.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-16-19 13:40		Jul-16-19 14:00		Jul-16-19 15:18		Jul-16-19 15:36		Jul-16-19 16:30		Jul-16-19 16:50	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25	
	Analyzed:	Jul-20-19 07:22		Jul-20-19 07:43		Jul-20-19 08:03		Jul-20-19 08:23		Jul-20-19 08:43		Jul-20-19 14:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		<0.00396	0.00396	<0.00403	0.00403	<0.00401	0.00401	<0.00403	0.00403	<0.00402	0.00402	<0.00402	0.00402
o-Xylene		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
Total Xylenes		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
Total BTEX		<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Jul-18-19 16:45		Jul-18-19 16:45		Jul-19-19 15:00		Jul-19-19 15:00		Jul-19-19 15:00		Jul-18-19 16:45	
	Analyzed:	Jul-18-19 22:39		Jul-18-19 22:45		Jul-20-19 01:35		Jul-20-19 01:41		Jul-20-19 01:47		Jul-18-19 20:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2060	24.8	878	24.8	845	5.03	911	25.0	1540	24.9	198	5.02
TPH by SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Jul-18-19 15:00		Jul-18-19 15:00		Jul-18-19 15:00		Jul-18-19 15:00		Jul-18-19 15:00		Jul-18-19 08:00	
	Analyzed:	Jul-19-19 05:31		Jul-19-19 05:54		Jul-19-19 06:18		Jul-19-19 06:42		Jul-19-19 07:07		Jul-18-19 20:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	63.3	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	18.1	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	81.4	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	63.3	15.0

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 631258

LT Environmental, Inc., Arvada, CO

Project Name: Cattle Baron State 001Y

Project Id: 012918100
Contact: Dan Moir
Project Location: Eddy County (Rural)

Date Received in Lab: Wed Jul-17-19 03:08 pm
Report Date: 22-JUL-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	631258-007		631258-008		631258-009		631258-010					
	Field Id:	PH09		PH09A		PH010		PH010A					
	Depth:	8- ft		18- ft		10- ft		19.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jul-16-19 10:50		Jul-16-19 11:30		Jul-15-19 11:30		Jul-15-19 12:05					
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25		Jul-19-19 11:25					
	Analyzed:	Jul-20-19 09:23		Jul-20-19 09:43		Jul-20-19 10:04		Jul-20-19 10:24					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
Toluene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
m,p-Xylenes		<0.00402	0.00402	<0.00401	0.00401	<0.00404	0.00404	<0.00398	0.00398				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
Total BTEX		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199				
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jul-19-19 15:00		Jul-19-19 15:00		Jul-19-19 15:00		Jul-18-19 16:45					
	Analyzed:	Jul-20-19 01:54		Jul-20-19 02:00		Jul-20-19 02:06		Jul-18-19 21:35					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		790	5.00	816	4.98	996	5.05	683	4.95				
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jul-18-19 08:00		Jul-18-19 08:00		Jul-18-19 08:00		Jul-18-19 08:00					
	Analyzed:	Jul-18-19 20:26		Jul-18-19 20:50		Jul-18-19 21:15		Jul-18-19 21:38					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-001	Date Collected:	07.16.19 13.40	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.18.19 16.45	Basis:	Wet Weight
Seq Number:	3095843			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2060**	24.8	mg/kg	07.18.19 22.39		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 15.00	Basis:	Wet Weight
Seq Number:	3095868			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.19.19 05.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.19.19 05.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.19.19 05.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.19.19 05.31	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.19.19 05.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.19.19 05.31	
o-Terphenyl	84-15-1	112	%	70-135	07.19.19 05.31	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-001	Date Collected:	07.16.19 13.40	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.20.19 07.22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.20.19 07.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.20.19 07.22	
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.20.19 07.22	

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Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-002	Date Collected:	07.16.19 14.00	Sample Depth:	17 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.18.19 16.45	Basis:	Wet Weight
Seq Number:	3095843			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**878**	24.8	mg/kg	07.18.19 22.45		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 15.00	Basis:	Wet Weight
Seq Number:	3095868			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.19.19 05.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.19.19 05.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.19.19 05.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.19.19 05.54	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.19.19 05.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.19.19 05.54	
o-Terphenyl	84-15-1	106	%	70-135	07.19.19 05.54	

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LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-002	Date Collected:	07.16.19 14.00	Sample Depth:	17 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.20.19 07.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.20.19 07.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	07.20.19 07.43	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.20.19 07.43	

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Sample Id:	**PH07**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-003	Date Collected:	07.16.19 15.18	Sample Depth:	13 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**845**	5.03	mg/kg	07.20.19 01.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 15.00	Basis:	Wet Weight
Seq Number:	3095868			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.19.19 06.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.19.19 06.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.19.19 06.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.19.19 06.18	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.19.19 06.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	07.19.19 06.18	
o-Terphenyl	84-15-1	117	%	70-135	07.19.19 06.18	

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Sample Id:	**PH07**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-003	Date Collected:	07.16.19 15.18	Sample Depth:	13 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.20.19 08.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.20.19 08.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.20.19 08.03	
1,4-Difluorobenzene	540-36-3	112	%	70-130	07.20.19 08.03	

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-004	Date Collected:	07.16.19 15.36	Sample Depth:	16 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**911**	25.0	mg/kg	07.20.19 01.41		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 15.00	Basis:	Wet Weight
Seq Number:	3095868			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.19.19 06.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.19.19 06.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.19.19 06.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.19.19 06.42	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.19.19 06.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	07.19.19 06.42	
o-Terphenyl	84-15-1	108	%	70-135	07.19.19 06.42	

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-004	Date Collected:	07.16.19 15.36	Sample Depth:	16 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.20.19 08.23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.20.19 08.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.20.19 08.23	
1,4-Difluorobenzene	540-36-3	112	%	70-130	07.20.19 08.23	

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Sample Id:	**PH08**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-005	Date Collected:	07.16.19 16.30	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1540**	24.9	mg/kg	07.20.19 01.47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 15.00	Basis:	Wet Weight
Seq Number:	3095868			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.19.19 07.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.19.19 07.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.19.19 07.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.19.19 07.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.19.19 07.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.19.19 07.07	
o-Terphenyl	84-15-1	96	%	70-135	07.19.19 07.07	

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Sample Id:	**PH08**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-005	Date Collected:	07.16.19 16.30	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.20.19 08.43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.20.19 08.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.20.19 08.43	
1,4-Difluorobenzene	540-36-3	110	%	70-130	07.20.19 08.43	

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Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-006	Date Collected:	07.16.19 16.50	Sample Depth:	17.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.18.19 16.45	Basis:	Wet Weight
Seq Number:	3095843			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**198**	5.02	mg/kg	07.18.19 20.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 08.00	Basis:	Wet Weight
Seq Number:	3095867			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 20.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	**63.3**	15.0	mg/kg	07.18.19 20.02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**18.1**	15.0	mg/kg	07.18.19 20.02		1
Total TPH	PHC635	**81.4**	15.0	mg/kg	07.18.19 20.02		1
Total GRO-DRO	PHC628	**63.3**	15.0	mg/kg	07.18.19 20.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	07.18.19 20.02	
o-Terphenyl	84-15-1	128	%	70-135	07.18.19 20.02	

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Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-006	Date Collected:	07.16.19 16.50	Sample Depth:	17.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.20.19 14.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.20.19 14.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	07.20.19 14.35	
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.20.19 14.35	

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Cattle Baron State 001Y

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-007	Date Collected:	07.16.19 10.50	Sample Depth:	8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**790**	5.00	mg/kg	07.20.19 01.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 08.00	Basis:	Wet Weight
Seq Number:	3095867			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 20.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 20.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 20.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 20.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 20.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.18.19 20.26	
o-Terphenyl	84-15-1	75	%	70-135	07.18.19 20.26	

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Cattle Baron State 001Y

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-007	Date Collected:	07.16.19 10.50	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.20.19 09.23	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.20.19 09.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.20.19 09.23	
4-Bromofluorobenzene	460-00-4	94	%	70-130	07.20.19 09.23	

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Cattle Baron State 001Y

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-008	Date Collected:	07.16.19 11.30	Sample Depth:	18 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**816**	4.98	mg/kg	07.20.19 02.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 08.00	Basis:	Wet Weight
Seq Number:	3095867			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 20.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 20.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 20.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 20.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 20.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.18.19 20.50	
o-Terphenyl	84-15-1	86	%	70-135	07.18.19 20.50	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-008	Date Collected:	07.16.19 11.30	Sample Depth:	18 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.20.19 09.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.20.19 09.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	07.20.19 09.43	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.20.19 09.43	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH010**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-009	Date Collected:	07.15.19 11.30	Sample Depth:	10 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.19.19 15.00	Basis:	Wet Weight
Seq Number:	3096017			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**996**	5.05	mg/kg	07.20.19 02.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 08.00	Basis:	Wet Weight
Seq Number:	3095867			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 21.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 21.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 21.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 21.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 21.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.18.19 21.15	
o-Terphenyl	84-15-1	94	%	70-135	07.18.19 21.15	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH010**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-009	Date Collected:	07.15.19 11.30	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	07.20.19 10.04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.20.19 10.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.20.19 10.04	
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.20.19 10.04	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH010A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-010	Date Collected:	07.15.19 12.05	Sample Depth:	19.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.18.19 16.45	Basis:	Wet Weight
Seq Number:	3095843			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**683**	4.95	mg/kg	07.18.19 21.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALG			% Moisture:	
Analyst:	ARM	Date Prep:	07.18.19 08.00	Basis:	Wet Weight
Seq Number:	3095867			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 21.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 21.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 21.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 21.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 21.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.18.19 21.38	
o-Terphenyl	84-15-1	96	%	70-135	07.18.19 21.38	

Certificate of Analytical Results 631258

LT Environmental, Inc., Arvada, CO

Cattle Baron State 001Y

Sample Id:	**PH010A**	Matrix:	Soil	Date Received:	07.17.19 15.08
Lab Sample Id:	631258-010	Date Collected:	07.15.19 12.05	Sample Depth:	19.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.19.19 11.25	Basis:	Wet Weight
Seq Number:	3095966			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.20.19 10.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.20.19 10.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.20.19 10.24	
1,4-Difluorobenzene	540-36-3	107	%	70-130	07.20.19 10.24	

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 631258

LT Environmental, Inc.

Cattle Baron State 001Y

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3095843 — Matrix: Solid — Date Prep: 07.18.19
MB Sample Id: 7682333-1-BLK — LCS Sample Id: 7682333-1-BKS — LCSD Sample Id: 7682333-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	253	101	249	100	90-110	2	20	mg/kg	07.18.19 20:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096017 — Matrix: Solid — Date Prep: 07.19.19
MB Sample Id: 7682394-1-BLK — LCS Sample Id: 7682394-1-BKS — LCSD Sample Id: 7682394-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	250	100	250	100	90-110	0	20	mg/kg	07.19.19 23:03	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3095843 — Matrix: Soil — Date Prep: 07.18.19
Parent Sample Id: 631258-006 — MS Sample Id: 631258-006 S — MSD Sample Id: 631258-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	198	251	452	101	434	94	90-110	4	20	mg/kg	07.18.19 20:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3095843 — Matrix: Soil — Date Prep: 07.18.19
Parent Sample Id: 631258-010 — MS Sample Id: 631258-010 S — MSD Sample Id: 631258-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	683	248	910	92	906	90	90-110	0	20	mg/kg	07.18.19 21:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3096017 — Matrix: Soil — Date Prep: 07.19.19
Parent Sample Id: 631454-001 — MS Sample Id: 631454-001 S — MSD Sample Id: 631454-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	130	250	377	99	377	99	90-110	0	20	mg/kg	07.19.19 23:22	

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

QC Summary 631258

LT Environmental, Inc.

Cattle Baron State 001Y

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3096017 Matrix: Soil Date Prep: 07.19.19
Parent Sample Id: 631454-011 MS Sample Id: 631454-011 S MSD Sample Id: 631454-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	180	250	427	99	426	98	90-110	0	20	mg/kg	07.20.19 00:50	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095867 Matrix: Solid Date Prep: 07.18.19
MB Sample Id: 7682339-1-BLK LCS Sample Id: 7682339-1-BKS LCSD Sample Id: 7682339-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1150	115	1150	115	70-135	0	20	mg/kg	07.18.19 11:51	
Diesel Range Organics (DRO)	<8.13	1000	1120	112	1150	115	70-135	3	20	mg/kg	07.18.19 11:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		106		116		70-135	%	07.18.19 11:51
o-Terphenyl	127		144	**	145	**	70-135	%	07.18.19 11:51

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095868 Matrix: Solid Date Prep: 07.18.19
MB Sample Id: 7682341-1-BLK LCS Sample Id: 7682341-1-BKS LCSD Sample Id: 7682341-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1160	116	1150	115	70-135	1	20	mg/kg	07.18.19 22:50	
Diesel Range Organics (DRO)	<8.13	1000	1170	117	1150	115	70-135	2	20	mg/kg	07.18.19 22:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		107		104		70-135	%	07.18.19 22:50
o-Terphenyl	131		118		115		70-135	%	07.18.19 22:50

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095867 Matrix: Soil Date Prep: 07.18.19
Parent Sample Id: 631202-001 MS Sample Id: 631202-001 S MSD Sample Id: 631202-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.18	997	1170	117	1150	114	70-135	2	20	mg/kg	07.18.19 13:04	
Diesel Range Organics (DRO)	14.7	997	1120	111	1180	117	70-135	5	20	mg/kg	07.18.19 13:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		106		70-135	%	07.18.19 13:04
o-Terphenyl	128		129		70-135	%	07.18.19 13:04

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

QC Summary 631258

LT Environmental, Inc.

Cattle Baron State 001Y

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095868 Matrix: Soil Date Prep: 07.18.19
Parent Sample Id: 631095-001 MS Sample Id: 631095-001 S MSD Sample Id: 631095-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.8	997	1100	109	1090	108	70-135	1	20	mg/kg	07.19.19 00:01	
Diesel Range Organics (DRO)	12.7	997	1110	110	1100	109	70-135	1	20	mg/kg	07.19.19 00:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		95		70-135	%	07.19.19 00:01
o-Terphenyl	104		101		70-135	%	07.19.19 00:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3095966 Matrix: Solid Date Prep: 07.19.19
MB Sample Id: 7682415-1-BLK LCS Sample Id: 7682415-1-BKS LCSD Sample Id: 7682415-1-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	0.111	111	0.118	118	70-130	6	35	mg/kg	07.20.19 05:13	
Toluene	<0.000456	0.100	0.0908	91	0.0968	97	70-130	6	35	mg/kg	07.20.19 05:13	
Ethylbenzene	<0.000565	0.100	0.0836	84	0.0901	90	70-130	7	35	mg/kg	07.20.19 05:13	
m,p-Xylenes	<0.00101	0.200	0.166	83	0.178	89	70-130	7	35	mg/kg	07.20.19 05:13	
o-Xylene	<0.00200	0.100	0.0805	81	0.0867	87	70-130	7	35	mg/kg	07.20.19 05:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		112		112		70-130	%	07.20.19 05:13
4-Bromofluorobenzene	85		85		87		70-130	%	07.20.19 05:13

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3095966 Matrix: Soil Date Prep: 07.19.19
Parent Sample Id: 631258-001 MS Sample Id: 631258-001 S MSD Sample Id: 631258-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.0990	98	70-130	2	35	mg/kg	07.20.19 05:53	
Toluene	<0.000457	0.100	0.0826	83	0.0824	82	70-130	0	35	mg/kg	07.20.19 05:53	
Ethylbenzene	<0.00200	0.100	0.0769	77	0.0777	77	70-130	1	35	mg/kg	07.20.19 05:53	
m,p-Xylenes	<0.00102	0.200	0.153	77	0.154	77	70-130	1	35	mg/kg	07.20.19 05:53	
o-Xylene	<0.00200	0.100	0.0747	75	0.0754	75	70-130	1	35	mg/kg	07.20.19 05:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		115		70-130	%	07.20.19 05:53
4-Bromofluorobenzene	94		93		70-130	%	07.20.19 05:53

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

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

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

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

Chain of Custody

Work Order No: 631258

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

Page 1 of 1

Project Manager:	DAN MOIR	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 North A Street	Address:	~~3104~~ E Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	dmoir@ltenv.com + abyers@ltenv.com

Work Order Comments

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

Project Name:	Cattle Baron State 001Y	Turn Around	
Project Number:	012918100	Routine ☐	
Project Location	Eddy County (Rural)	Rush: 3 day	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	2RP-4686	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	1.1	Thermometer ID	TPH001
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	10

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	PH06	S	7/16/19	13:40	8'	1			
	PH06A	S		14:00	17'	1			
	PH07	S		15:18	13'	1			
	PH07A	S		15:36	16'	1			
	PH08	S		16:30	8'	1			
	PH08A	S		16:50	17.5'	1			
	PH09	S		10:50	8'	1			
	PH09A	S		11:30	18'	1			
	PH10	S	7/15/19	11:30	10'	1			
	PH10A	S	7/15/19	12:05	19.5'	1			

Preservative Codes

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

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

Sample Comments

ANALYSIS REQUEST

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

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

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

1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		14:10 7/17/19	2		7/17/19 15:02
			4		
			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **43618**

Date/Time: 07/17/19 16:21
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 775763158795

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
631258-001	S	PH06	07/16/19 13:40	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-001	S	PH06	07/16/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-001	S	PH06	07/16/19 13:40	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-002	S	PH06A	07/16/19 14:00	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-002	S	PH06A	07/16/19 14:00	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-002	S	PH06A	07/16/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-003	S	PH07	07/16/19 15:18	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-003	S	PH07	07/16/19 15:18	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-003	S	PH07	07/16/19 15:18	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-004	S	PH07A	07/16/19 15:36	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-004	S	PH07A	07/16/19 15:36	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-004	S	PH07A	07/16/19 15:36	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-005	S	PH08	07/16/19 16:30	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-005	S	PH08	07/16/19 16:30	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-005	S	PH08	07/16/19 16:30	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-006	S	PH08A	07/16/19 16:50	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-006	S	PH08A	07/16/19 16:50	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-006	S	PH08A	07/16/19 16:50	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-007	S	PH09	07/16/19 10:50	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-007	S	PH09	07/16/19 10:50	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-007	S	PH09	07/16/19 10:50	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-008	S	PH09A	07/16/19 11:30	E300_CL	Chloride by EPA 300	07/19/19	01/12/20	JKR	CL	
631258-008	S	PH09A	07/16/19 11:30	SW8021B	BTEX by EPA 8021B	07/19/19	07/30/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-008	S	PH09A	07/16/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	07/19/19	07/30/19	JKR	GRO-DRO PHCC10C28 PI	
631258-009	S	PH010	07/15/19 11:30	E300_CL	Chloride by EPA 300	07/19/19	01/11/20	JKR	CL	

Inter-Office Shipment

IOS Number **43618**

Date/Time: 07/17/19 16:21
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 775763158795
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
631258-009	S	PH010	07/15/19 11:30	SW8021B	BTEX by EPA 8021B	**07/19/19**	07/29/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-009	S	PH010	07/15/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	**07/19/19**	07/29/19	JKR	GRO-DRO PHCC10C28 PI	
631258-010	S	PH010A	07/15/19 12:05	E300_CL	Chloride by EPA 300	**07/19/19**	01/11/20	JKR	CL	
631258-010	S	PH010A	07/15/19 12:05	SW8021B	BTEX by EPA 8021B	**07/19/19**	07/29/19	JKR	BR4FBZ BZ BZME EBZ X	
631258-010	S	PH010A	07/15/19 12:05	SW8015MOD_NM	TPH by SW8015 Mod	**07/19/19**	07/29/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 07/17/2019

Received By: Brianna Teel

Date Received: 07/18/2019 11:02

Cooler Temperature: 0.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43618

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

Sent By: Elizabeth McClellan **Date Sent:** 07/17/2019 04:21 PM

Received By: Brianna Teel **Date Received:** 07/18/2019 11:02 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 07/18/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/17/2019 03:08:00 PM

Work Order #: 631258

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)?	11.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	Chilling in Progress.
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**No**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 07/17/2019

Checklist reviewed by: Jessica Kramer Date: 07/18/2019

Analytical Report 640158

for

LT Environmental, Inc.

Project Manager: Dan Moir

Cattlebaron 1Y

012918100

22-OCT-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

22-OCT-19

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

Reference: XENCO Report No(s): **640158**
Cattlebaron 1Y
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) 640158. 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. 640158 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 640158

LT Environmental, Inc., Arvada, CO

Cattlebaron 1Y

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-14-19 09:55	0.5 ft	640158-001
PH09	S	10-14-19 09:59	0.5 ft	640158-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Cattlebaron 1Y

Project ID: *012918100*
Work Order Number(s): *640158*

Report Date: *22-OCT-19*
Date Received: *10/16/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104855 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3104971 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640158

LT Environmental, Inc., Arvada, CO

Project Name: Cattlebaron 1Y

Project Id: 012918100
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-16-19 09:53 am
Report Date: 22-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640158-001				640158-002							
	Field Id:	PH01				PH09							
	Depth:	0.5- ft				0.5- ft							
	Matrix:	SOIL				SOIL							
	Sampled:	Oct-14-19 09:55				Oct-14-19 09:59							
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-18-19 17:00				Oct-18-19 16:30							
	Analyzed:	Oct-19-19 08:52				Oct-19-19 12:56							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Benzene		<0.00199	0.00199			<0.00201	0.00201						
Toluene		<0.00199	0.00199			<0.00201	0.00201						
Ethylbenzene		<0.00199	0.00199			<0.00201	0.00201						
m,p-Xylenes		<0.00398	0.00398			<0.00402	0.00402						
o-Xylene		<0.00199	0.00199			<0.00201	0.00201						
Total Xylenes		<0.00199	0.00199			<0.00201	0.00201						
Total BTEX		<0.00199	0.00199			<0.00201	0.00201						
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-17-19 13:45				Oct-17-19 13:45							
	Analyzed:	Oct-17-19 18:41				Oct-17-19 18:47							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Chloride		15.6	5.00			137	5.00						
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-17-19 12:00				Oct-17-19 12:00							
	Analyzed:	Oct-17-19 20:36				Oct-17-19 20:55							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9			<49.9	49.9						
Diesel Range Organics (DRO)		<49.9	49.9			<49.9	49.9						
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9			<49.9	49.9						
Total GRO-DRO		<49.9	49.9			<49.9	49.9						
Total TPH		<49.9	49.9			<49.9	49.9						

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640158

LT Environmental, Inc., Arvada, CO

Cattlebaron 1Y

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.16.19 09.53
Lab Sample Id:	640158-001	Date Collected:	10.14.19 09.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.17.19 13.45	Basis:	Wet Weight
Seq Number:	3104670			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.6**	5.00	mg/kg	10.17.19 18.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.17.19 12.00	Basis:	Wet Weight
Seq Number:	3104730			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.17.19 20.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.17.19 20.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.17.19 20.36	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.17.19 20.36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.17.19 20.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.17.19 20.36	
o-Terphenyl	84-15-1	97	%	70-135	10.17.19 20.36	

Certificate of Analytical Results 640158

LT Environmental, Inc., Arvada, CO

Cattlebaron 1Y

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.16.19 09.53
Lab Sample Id:	640158-001	Date Collected:	10.14.19 09.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 17.00	Basis:	Wet Weight
Seq Number:	3104971			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.19.19 08.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.19.19 08.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.19.19 08.52	
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.19.19 08.52	

Certificate of Analytical Results 640158

LT Environmental, Inc., Arvada, CO

Cattlebaron 1Y

Sample Id: **PH09** Matrix: Soil Date Received:10.16.19 09.53

Lab Sample Id: 640158-002 Date Collected: 10.14.19 09.59 Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 10.17.19 13.45 Basis: Wet Weight

Seq Number: 3104670 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**137**	5.00	mg/kg	10.17.19 18.47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 10.17.19 12.00 Basis: Wet Weight

Seq Number: 3104730 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.17.19 20.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.17.19 20.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.17.19 20.55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.17.19 20.55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.17.19 20.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.17.19 20.55	
o-Terphenyl	84-15-1	96	%	70-135	10.17.19 20.55	

Certificate of Analytical Results 640158

LT Environmental, Inc., Arvada, CO

Cattlebaron 1Y

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	10.16.19 09.53
Lab Sample Id:	640158-002	Date Collected:	10.14.19 09.59	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.18.19 16.30	Basis:	Wet Weight
Seq Number:	3104855			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.19.19 12.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.19.19 12.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	127	%	70-130	10.19.19 12.56	
1,4-Difluorobenzene	540-36-3	91	%	70-130	10.19.19 12.56	

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 640158

LT Environmental, Inc.

Cattlebaron 1Y

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688364-1-BLK — LCS Sample Id: 7688364-1-BKS — LCSD Sample Id: 7688364-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	255	102	254	102	90-110	0	20	mg/kg	10.17.19 15:24	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 639881-001 — MS Sample Id: 639881-001 S — MSD Sample Id: 639881-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.12	252	262	101	258	99	90-110	2	20	mg/kg	10.17.19 15:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3104670 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640104-002 — MS Sample Id: 640104-002 S — MSD Sample Id: 640104-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	528	250	759	92	734	82	90-110	3	20	mg/kg	10.17.19 17:36	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688340-1-BLK — LCS Sample Id: 7688340-1-BKS — LCSD Sample Id: 7688340-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1060	106	1190	119	70-135	12	20	mg/kg	10.17.19 13:06	
Diesel Range Organics (DRO)	<15.0	1000	945	95	1060	106	70-135	11	20	mg/kg	10.17.19 13:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		115		125		70-135	%	10.17.19 13:06
o-Terphenyl	85		101		107		70-135	%	10.17.19 13:06

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Solid — Date Prep: 10.17.19
MB Sample Id: 7688340-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.17.19 12:47	

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 640158

LT Environmental, Inc.

Cattlebaron 1Y

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104730 — Matrix: Soil — Date Prep: 10.17.19
Parent Sample Id: 640096-001 — MS Sample Id: 640096-001 S — MSD Sample Id: 640096-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1160	116	1190	119	70-135	3	20	mg/kg	10.17.19 14:21	
Diesel Range Organics (DRO)	<15.0	998	1110	111	1120	112	70-135	1	20	mg/kg	10.17.19 14:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		129		70-135	%	10.17.19 14:21
o-Terphenyl	105		107		70-135	%	10.17.19 14:21

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104855 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688520-1-BLK — LCS Sample Id: 7688520-1-BKS — LCSD Sample Id: 7688520-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000730	0.100	0.0978	98	0.103	103	70-130	5	35	mg/kg	10.18.19 04:15	
Toluene	<0.00200	0.100	0.109	109	0.105	105	70-130	4	35	mg/kg	10.18.19 04:15	
Ethylbenzene	<0.00200	0.100	0.0997	100	0.104	104	70-130	4	35	mg/kg	10.18.19 04:15	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.204	102	70-130	3	35	mg/kg	10.18.19 04:15	
o-Xylene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	10.18.19 04:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		88		93		70-130	%	10.18.19 04:15
4-Bromofluorobenzene	70		98		102		70-130	%	10.18.19 04:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3104971 — Matrix: Solid — Date Prep: 10.18.19
MB Sample Id: 7688555-1-BLK — LCS Sample Id: 7688555-1-BKS — LCSD Sample Id: 7688555-1-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	0.0980	98	0.0996	100	70-130	2	35	mg/kg	10.19.19 11:51	
Toluene	<0.00200	0.100	0.105	105	0.0997	100	70-130	5	35	mg/kg	10.19.19 11:51	
Ethylbenzene	<0.00200	0.100	0.102	102	0.0998	100	70-130	2	35	mg/kg	10.19.19 11:51	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.202	101	70-130	2	35	mg/kg	10.19.19 11:51	
o-Xylene	<0.00200	0.100	0.107	107	0.105	105	70-130	2	35	mg/kg	10.19.19 11:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		94		93		70-130	%	10.19.19 11:51
4-Bromofluorobenzene	86		101		97		70-130	%	10.19.19 11:51

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 640158

LT Environmental, Inc.

Cattlebaron 1Y

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

Seq Number: 3104855 Matrix: Soil Date Prep: 10.18.19

Parent Sample Id: 640269-001 MS Sample Id: 640269-001 S MSD Sample Id: 640269-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0716	72	0.0727	73	70-130	2	35	mg/kg	10.18.19 04:55	
Toluene	<0.00199	0.0996	0.0797	80	0.0782	78	70-130	2	35	mg/kg	10.18.19 04:55	
Ethylbenzene	<0.00199	0.0996	0.0846	85	0.0813	81	70-130	4	35	mg/kg	10.18.19 04:55	
m,p-Xylenes	<0.00398	0.199	0.157	79	0.161	81	70-130	3	35	mg/kg	10.18.19 04:55	
o-Xylene	<0.00199	0.0996	0.0819	82	0.0871	87	70-130	6	35	mg/kg	10.18.19 04:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		92		70-130	%	10.18.19 04:55
4-Bromofluorobenzene	107		96		70-130	%	10.18.19 04:55

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

Seq Number: 3104971 Matrix: Soil Date Prep: 10.18.19

Parent Sample Id: 640284-001 MS Sample Id: 640284-001 S MSD Sample Id: 640284-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0993	0.0962	97	0.0869	87	70-130	10	35	mg/kg	10.19.19 12:31	
Toluene	<0.00199	0.0993	0.0978	98	0.0830	83	70-130	16	35	mg/kg	10.19.19 12:31	
Ethylbenzene	<0.00199	0.0993	0.0899	91	0.0757	76	70-130	17	35	mg/kg	10.19.19 12:31	
m,p-Xylenes	<0.00397	0.199	0.182	91	0.150	75	70-130	19	35	mg/kg	10.19.19 12:31	
o-Xylene	<0.00199	0.0993	0.0933	94	0.0774	78	70-130	19	35	mg/kg	10.19.19 12:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		91		70-130	%	10.19.19 12:31
4-Bromofluorobenzene	107		97		70-130	%	10.19.19 12:31

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

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

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

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

Final 1.000

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 640158

www.xenco.com Page 1 of 1

Project Manager:	DAN MOIR	Bill to: (if different)	KYLE LITTRELL
Company Name:	LT ENVIRONMENTAL	Company Name:	XTO ENERGY
Address:	3300 NORTH A STREET	Address:	3104 E. GREENE STREET
City, State ZIP:	MIDLAND TX 79705	City, State ZIP:	CARLSBAD NM 88220
Phone:	(432)236-3849	Email:	abyers@lt-env.com; dmoir@lt-env.com

Work Order Comments

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

Project Name:	CATTLEBARON STATE 1Y	Turn Around	
Project Number:	012918100	Routine	☐
P.O. Number:	2RP-4686	Rush:	5 day
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT					
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No		
Temperature (°C):	6.4	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:	2		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	10/14/19	0955	0.5'	1	x	x	x
PH09	S	10/14/19	0959	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
Anna Byers		10/16/19 @ 953	2		
			4		
			6		

Inter-Office Shipment

IOS Number **50257**

Date/Time: 10/16/19 13:34
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776737745954

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640158-001	S	PH01	10/14/19 09:55	SW8015MOD_NM	TPH by SW8015 Mod	10/22/19	10/28/19	JKR	GRO-DRO PHCC10C28 PI	
640158-001	S	PH01	10/14/19 09:55	SW8021B	BTEX by EPA 8021B	10/22/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640158-001	S	PH01	10/14/19 09:55	E300_CL	Chloride by EPA 300	10/22/19	04/11/20	JKR	CL	
640158-002	S	PH09	10/14/19 09:59	SW8021B	BTEX by EPA 8021B	10/22/19	10/28/19	JKR	BR4FBZ BZ BZME EBZ X	
640158-002	S	PH09	10/14/19 09:59	E300_CL	Chloride by EPA 300	10/22/19	04/11/20	JKR	CL	
640158-002	S	PH09	10/14/19 09:59	SW8015MOD_NM	TPH by SW8015 Mod	10/22/19	10/28/19	JKR	GRO-DRO PHCC10C28 PI	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/16/2019

Received By: Amanda Levario

Date Received: 10/17/2019 11:19

Cooler Temperature: 3.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50257

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

Sent By: Elizabeth McClellan **Date Sent:** 10/16/2019 01:34 PM

Received By: Amanda Levario **Date Received:** 10/17/2019 11:19 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: _____ Date: 10/17/2019

Amanda Levario

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/16/2019 09:53:00 AM

Work Order #: 640158

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 10/16/2019

Checklist reviewed by: Jessica Kramer Date: 10/17/2019