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

March 8, 2019

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

RE: Closure Request
Remuda North 25 State 101H
Remediation Permit Numbers 2RP-5139 and 2RP-5181
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation of impacted soil and confirmation soil sampling activities at the Remuda North 25 State 101H (Site) located in Unit L, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impact to soil after two separate events caused the release of crude oil into the lined temporary tank containment during flowback operations.

On December 9, 2018, misaligned valves caused the release of 40 barrels (bbls) of crude oil within the lined tank containment. The liner was compromised in the southwest corner of the containment and failed the subsequent integrity inspection. Less than one barrel of oil breached the liner and impacted the well pad. Vacuum trucks were dispatched to the Site to recover free-standing fluid; approximately 39.3 bbls of crude oil were recovered from the lined containment and returned to the tanks. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on December 21, 2018, and was assigned Remediation Permit (RP) Number 2RP-5139 (Attachment 1).

On December 25, 2018, a contractor failed to maintain tank levels, causing a tank to overflow within the same lined tank containment. Approximately 50 bbls of crude oil were released within the lined containment. Approximately 1 bbl of oil escaped onto the well pad and pasture area south of the pad as the result of the compromised liner in the southwest corner of the containment. Vacuum trucks were dispatched to Site to recover free-standing fluid; approximately 49 bbls of oil were recovered from the lined containment and returned to the tanks. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on January 8, 2019, and was assigned RP Number 2RP-5181 (Attachment 1).

Approximately 1,000 square feet of the well pad and pasture area south of the well pad were affected by the two releases. Since both releases occurred in the same area, excavation and

sampling activities were completed to address and close both releases simultaneously. Based on the excavation activities and results of the confirmation soil sampling events, XTO is requesting no further action for these two releases.

BACKGROUND

The releases occurred after August 14, 2018; therefore, 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 less than 50 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey well 321717103561001 23S.29E.24.41321, located approximately 1.06 miles northeast of the Site, with a depth to groundwater of 50 feet. The total depth of the water well was not determined. The water well is approximately 33 feet lower in elevation than 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. Based on these criteria, the following NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

PRELIMINARY SOIL SAMPLING ACTIVITIES

On December 28, 2018, LTE personnel inspected the Site to evaluate the release extent. The tanks and temporary lined containment remained on site. Surface hydrocarbon staining was observed in the release area on the well pad and pasture area south of the pad. The release extent was mapped using a handheld Global Positing System (GPS) unit and is depicted on Figure 2. LTE personnel collected four preliminary soil samples (SS01 through SS04) within the release area from a depth of 0.5 feet bgs to assess the lateral extent of soil impacts. The soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

Laboratory analytical results for soil samples SS01 and SS02 indicated that benzene, BTEX, TPH, and chloride concentrations exceeded the NMOCD Table 1 closure criteria. Laboratory analytical results for soil sample SS03 indicated that BTEX and TPH concentrations exceeded the NMOCD Table 1 closure criteria. Laboratory analytical results for soil sample SS04 indicated that benzene

and TPH concentrations exceeded the NMOCD Table 1 closure criteria. Laboratory analytical results are presented on Figure 2 and summarized in Table 1 and the laboratory analytical report is included in Attachment 2. Based on the soil sample analytical results, excavation of impacted soil was required once the flowback equipment was removed from the Site.

EXCAVATION SOIL SAMPLING ACTIVITIES

During February 2019, the flowback equipment was removed, and LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by laboratory analytical results, field screening activities, and the documented release area. Excavation activities commenced on February 25, 2019, and concluded on February 26, 2019. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated from the release area. The majority of the excavation was completed to a depth of 6 feet bgs. A small area on the west side of the excavation was completed to a depth of 18 feet bgs based on field screening results.

Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS03 were collected from the floor of the excavation. Floor samples FS01 and FS02 were collected from a depth of 6 feet bgs and floor sample FS03 was collected from a depth of 18 feet bgs. Composite soil samples SW01 through SW10 were collected from the sidewalls of the excavation. Sidewall samples SW01 through SW06 and SW08 were collected from a depth of 0 to 4 feet bgs, sidewall samples SW07 and SW09 were collected from a depth of 0 to 18 feet bgs, and sidewall sample SW10 was collected from a depth of 0 to 6 feet bgs. Soil sample SW01 was collected in the area of the containment liner breach. The soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. The soil sample locations and depths are presented on Figure 3.

The excavation measured approximately 2,502 square feet in area with a depth of 6 feet to 18 feet bgs. The horizontal extent of the excavation is illustrated on Figure 3. Approximately 720 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land Landfill Facility, in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that preliminary soil samples SS01 through SS04 exceeded the NMOCD Table 1 closure criteria. The impacted soil was excavated, and laboratory analytical results for confirmation soil samples SW01 through SW10 and FS01 through FS03 collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant

with the NMOCD Table 1 closure criteria. Laboratory analytical results are summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

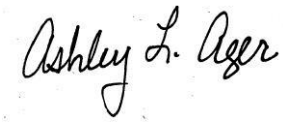
The impacted soil was excavated from the release area and laboratory analytical results for the confirmation soil samples collected from the final excavation extent indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria and no further excavation was required. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for release numbers 2RP-5139 and 2RP-5181. Upon approval of the no further action request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Ms. Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist



Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Robert Hamlet, NMOCD
Ryan Mann, State Land Office

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5139 and 2RP-5181)
Attachment 2	Laboratory Analytical Reports
Attachment 3	Photographic Log

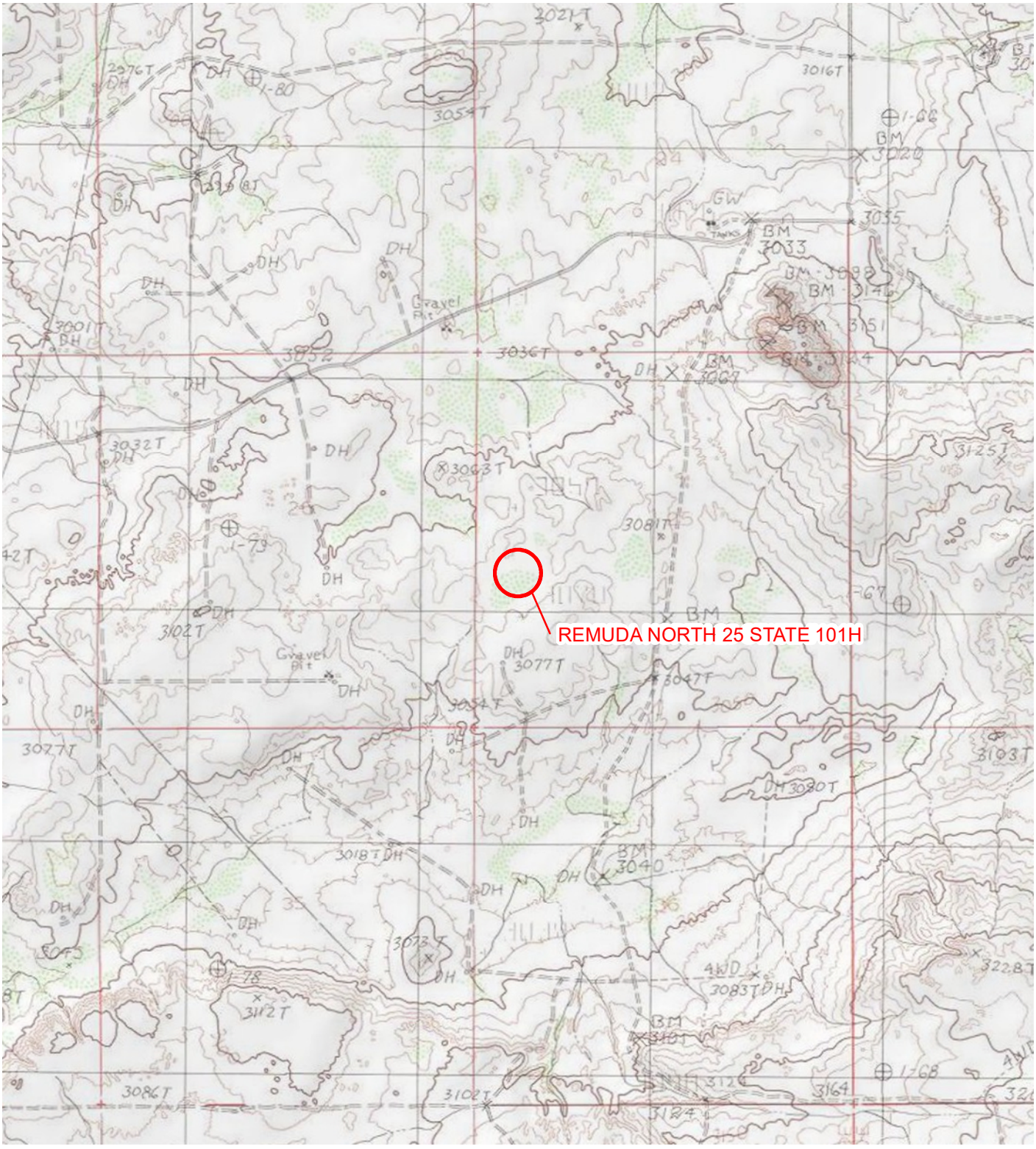


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NOTE: REMEDIATION PERMIT NUMBERS 2RP-5139 & 2RP-5181

FIGURE 1
SITE LOCATION MAP
REMUDA NORTH 25 STATE 101H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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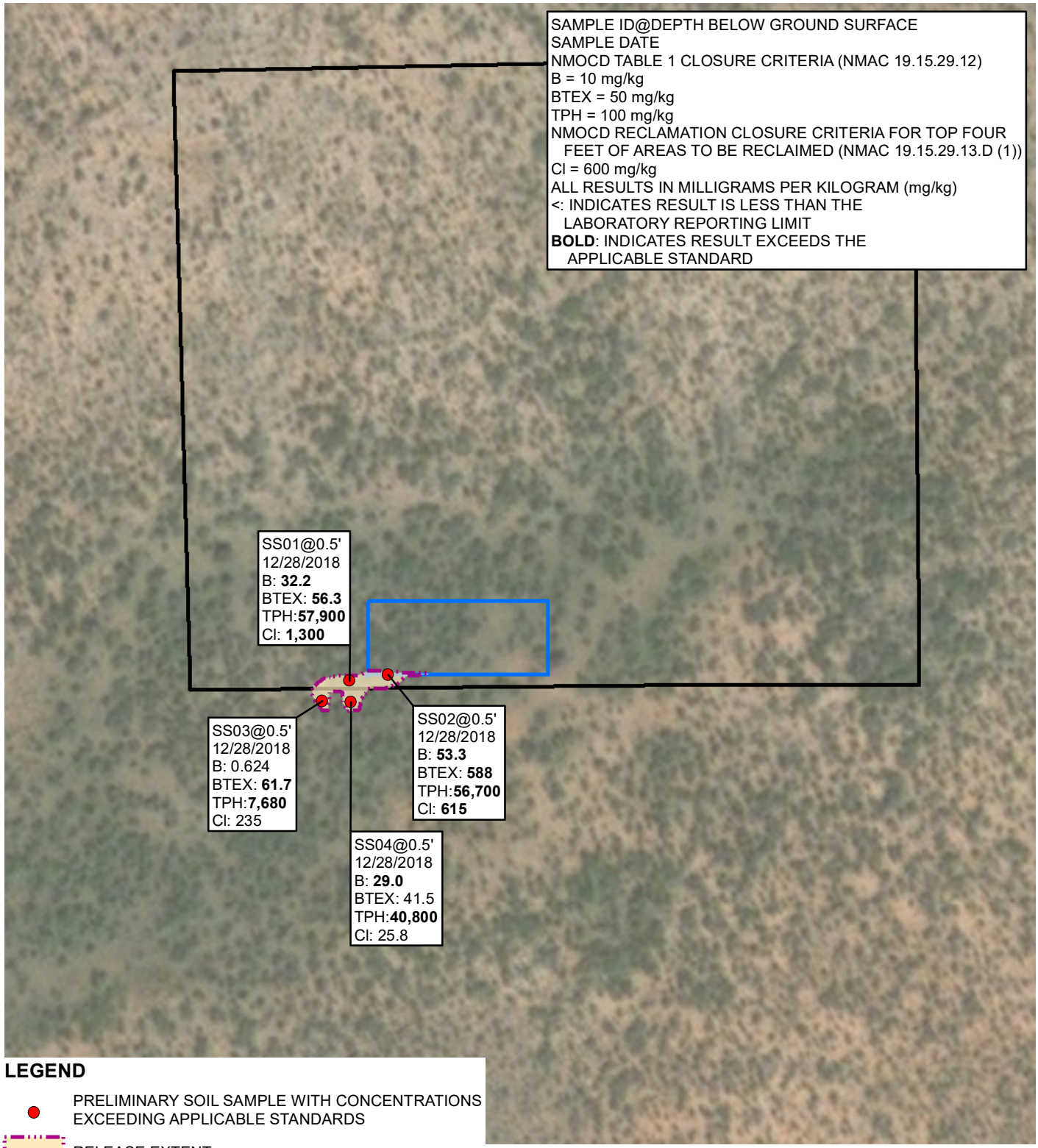


LEGEND

PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE STANDARDS

RELEASE EXTENT

FORMER TEMPORARY STORAGE TANK CONTAINMENT AREA

PAD BOUNDARY

IMAGE COURTESY OF ESRI

0 100 200

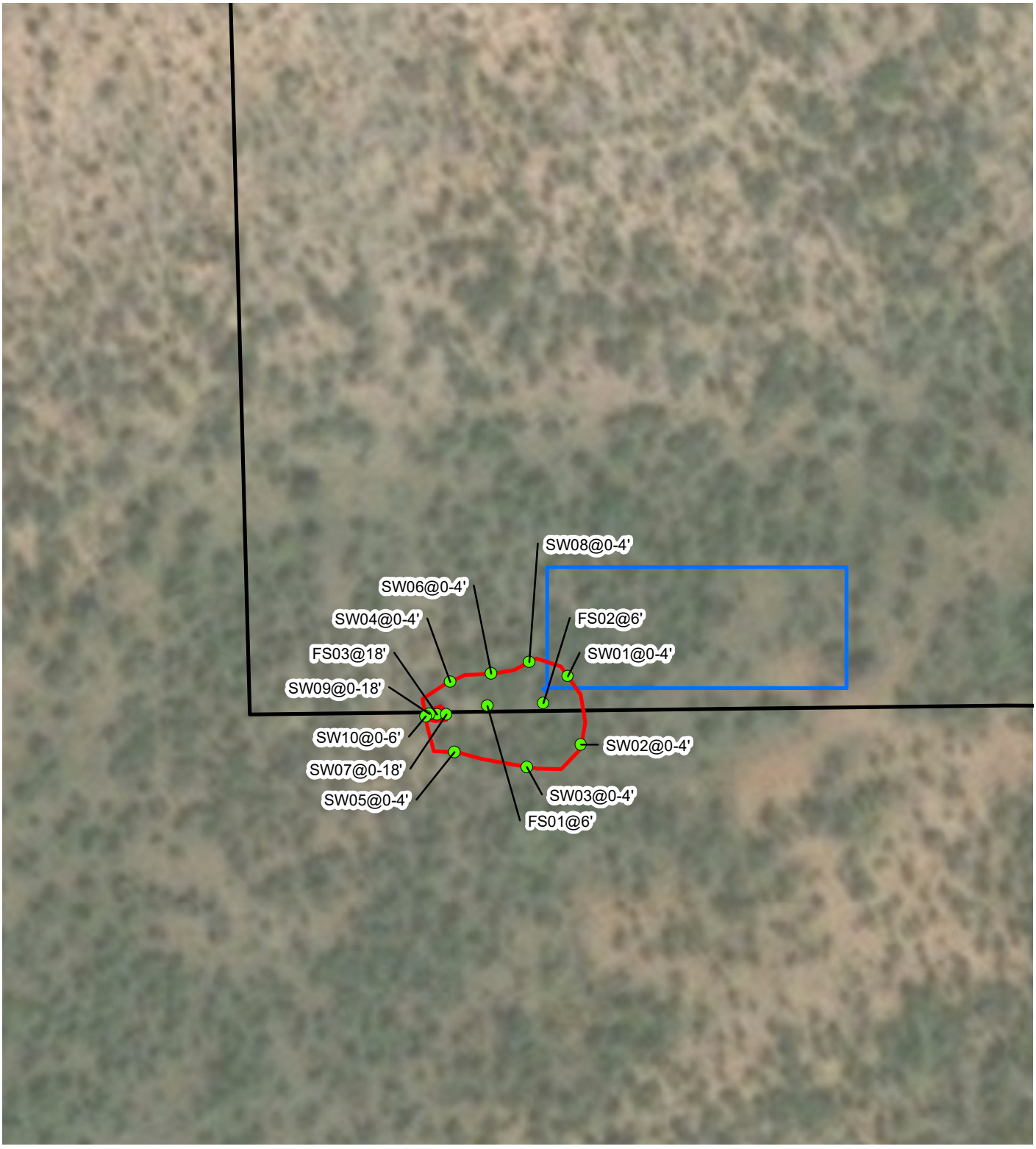
Feet

N

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBERS 2RP-5139 & 2RP-5181

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
REMUDA NORTH 25 STATE 101H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918200_REMUDA NORTH 25 STATE 101H\012918200_FIG02_SITE_2019_5139_5181.mxd



LEGEND

IMAGE COURTESY OF ESRI

EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS

FORMER TEMPORARY STORAGE TANK CONTAINMENT AREA

PAD BOUNDARY

EXCAVATION EXTENT

0 60 120

Feet

N

NOTE: REMEDIATION PERMIT NUMBERS 2RP-5139 & 2RP-5181

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
REMUDA NORTH 25 STATE 101H
UNIT L SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918200_REMUDA NORTH 25 STATE 101H\012918200_FIG03_EXCAVATION SS_2019_5139_5181.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

REMUDA NORTH 25 STATE 101H
REMEDIATION PERMIT NUMBERS 2RP-5139 AND 2RP-5181
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)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	12/28/2018	**32.2**	11.0	9.98	3.13	**56.3**	19,300	35,800	2,820	55,100	**57,900**	**1,300**
SS02	0.5	12/28/2018	**53.3**	174	40.2	321	**588**	24,700	29,300	2,710	54,000	**56,700**	**615**
SS03	0.5	12/28/2018	0.624	8.93	6.24	45.9	**61.7**	2,790	4,590	299	7,380	**7,680**	235
SS04	0.5	12/28/2018	**29.0**	1.86	3.21	7.47	41.5	17,300	21,700	1,760	39,000	**40,800**	25.8
FS01	6	02/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	5.91
FS02	6	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	224
FS03	18	02/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	179
SW01	0 - 4	02/26/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	66.7	<15.0	66.7	66.7	108
SW02	0 - 4	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	74.2
SW03	0 - 4	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	56.0
SW04	0 - 4	02/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	41.8	<15.0	41.8	41.8	140
SW05	0 - 4	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	306
SW06	0 - 4	02/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	71.8
SW07	0 - 18	02/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	107
SW08	0 - 4	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	107
SW09	0 - 18	02/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	216
SW10	0 - 6	02/26/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	46.2
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	NE	100	600

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
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
NMAC - New Mexico Administrative Code

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	NAB1836255128
District RP	2 2RP-5139
Facility ID	
Application ID	pAB1836254759

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1836255128
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.27449 Longitude -103.94487
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda North 25 State 101H	Site Type Production Well
Date Release Discovered 12/9/2018	API# *(if applicable)* 30-015-44313

Unit Letter	Section	Township	Range	County
L	25	23S	29E	Eddy

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

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) 40	Volume Recovered (bbls) 39.3
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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

Contract flowback crew reported release of fluid into lined containment due to misaligned valves. Less than one barrel impacted the well pad. Vacuum trucks returned recovered fluid from containment to the tanks. A 48-hour advance notice of liner inspection was provided by email to NMOCD District 2. The containment liner failed the integrity inspection. Flowback is scheduled to be completed by February 1, 2019. At that time flowback equipment will be removed and remediation will begin. An environmental contractor will be retained to assist with remediation efforts.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1836255128
District RP	2 2RP-5139
Facility ID	
Application ID	pAB1836254759

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? An unauthorized release of a volume of 25 barrels or more

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Amy Ruth to Maria Pruett, Mike Bratcher, Jim Griswold (NMOCD), Ryan Mann (SLO), and Shelly Tucker (BLM), on 12/13/2018 by email

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Amy C. Ruth
Title: SH&E Coordinator
Signature:
Date: 12-21-18
email: Amy_Ruth@xtoenergy.com
Telephone: 575-689-3380

OCD Only

Received by:
Date: 12/28/2018

State of New Mexico
Oil Conservation Division

Incident ID	NAB1836255128
District RP	2 2RP-5139
Facility ID	
Application ID	pAB1836254759

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (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	NAB1836255128
District RP	2 2RP-5139
Facility ID	
Application ID	pAB1836254759

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: Amy C. Ruth Title: SH&E Coordinator

Signature: Date: 12-21-18

email: Amy_Ruth@xtoenergy.com Telephone: 575-689-3380

OCD Only

Received by: Date: 12/28/2018

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5139
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 Coordinator

Signature: Date: 3/8/2019

email: kyle_littrell@xtoenenergy.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:

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	NAB1901652206
District RP	2 2RP-5181
Facility ID	
Application ID	pAB1901651925

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1901652206
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.27449 Longitude -103.94487
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda North 25 State 101H	Site Type Production Well
Date Release Discovered 12/25/2018	API# *(if applicable)* 30-015-44313

Unit Letter	Section	Township	Range	County
L	25	23S	29E	Eddy

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

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) 50	Volume Recovered (bbls) 49
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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

Flowback operations reported a release of oil from production tanks after contractor failed to maintain tank levels and a storage tank overflowed. Free standing fluids were recovered from the storage tank containment and returned to production tanks. One barrel of fluid escaped to the well pad through the compromised temporary liner. Flowback operations on location have ceased and once all equipment is removed from the location, an environmental contractor will begin remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1901652206
District RP	2 2RP-5181
Facility ID	
Application ID	pAB1901651925

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? An unauthorized release of a volume of 25 barrels or more

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Kyle Littrell to Mike Bratcher and Jim Griswold (NMOCD), Ryan Mann (SLO), and Shelly Tucker (BLM) on 12/25/2018 by email.

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 1-8-19

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

OCD Only

Received by: Date: 1/16/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2 2RP-5181
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
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 Coordinator

Signature: [signature] Date: 3/8/2019

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5181
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 Coordinator

Signature: Date: 3/8/2019

email: kyle_littrell@xtoenenergy.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:

Analytical Report 610119

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda N25S 101H

10-JAN-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

10-JAN-19

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

Reference: XENCO Report No(s): **610119**
Remuda N25S 101H
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 610119. 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. 610119 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 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	12-28-18 12:25	.5 ft	610119-001
SS02	S	12-28-18 12:40	.5 ft	610119-002
SS03	S	12-28-18 13:00	.5 ft	610119-003
SS04	S	12-28-18 13:15	.5 ft	610119-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3074886 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 610119-003,610119-004.
Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 610119-004.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Dilution due to excessive hydrocarbons.

Batch: LBA-3075245 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 610119-003.

Batch: LBA-3075387 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 610541-001 S,610541-001 SD.

Certificate of Analysis Summary 610119

LT Environmental, Inc., Arvada, CO

Project Name: Remuda N25S 101H

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

Date Received in Lab: Thu Jan-03-19 11:47 am
Report Date: 10-JAN-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	610119-001		610119-002		610119-003		610119-004			
	Field Id:	SS01		SS02		SS03		SS04			
	Depth:	.5- ft		.5- ft		.5- ft		.5- ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Dec-28-18 12:25		Dec-28-18 12:40		Dec-28-18 13:00		Dec-28-18 13:15			
BTEX by EPA 8021B	***Extracted:***	Jan-04-19 08:15		Jan-04-19 08:15		Jan-04-19 08:15		Jan-04-19 08:15			
	Analyzed:	Jan-08-19 04:51		Jan-08-19 05:29		Jan-04-19 18:35		Jan-04-19 17:57			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		32.2	1.99	53.3	10.1	0.624	0.499	29.0 D	2.00		
Toluene		11.0	1.99	174	10.1	8.93	0.499	1.86	0.0200		
Ethylbenzene		9.98	1.99	40.2	10.1	6.24	0.499	3.21	0.0200		
m,p-Xylenes		<3.98	3.98	253	20.1	35.3	0.998	4.06 D	4.00		
o-Xylene		3.13	1.99	67.6	10.1	10.6	0.499	3.41	0.0200		
Total Xylenes		3.13	1.99	321	10.1	45.9	0.499	7.47	0.0200		
Total BTEX		56.3	1.99	588	10.1	61.7	0.499	41.5	0.0200		
Inorganic Anions by EPA 300	***Extracted:***	Jan-08-19 13:00		Jan-08-19 13:00		Jan-08-19 13:00		Jan-08-19 13:00			
	Analyzed:	Jan-09-19 12:06		Jan-09-19 12:13		Jan-09-19 12:19		Jan-09-19 12:25			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		1300	4.98	615	4.98	235	4.98	25.8	4.96		
TPH by SW8015 Mod	***Extracted:***	Jan-09-19 10:00		Jan-09-19 10:00		Jan-06-19 13:00		Jan-09-19 10:00			
	Analyzed:	Jan-09-19 15:49		Jan-09-19 16:09		Jan-09-19 04:07		Jan-09-19 15:30			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		19300	300	24700	300	2790	15.0	17300	300		
Diesel Range Organics (DRO)		35800	300	29300	300	4590	15.0	21700	300		
Motor Oil Range Hydrocarbons (MRO)		2820	300	2710	300	299	15.0	1760	300		
Total TPH		57900	300	56700	300	7680	15.0	40800	300		

Jessica Kramer
Project Assistant

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-001	Date Collected:	12.28.18 12.25	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.08.19 13.00	Basis:	Wet Weight
Seq Number:	3075213				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1300**	4.98	mg/kg	01.09.19 12.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.09.19 10.00	Basis:	Wet Weight
Seq Number:	3075387				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19300**	300	mg/kg	01.09.19 15.49		20
Diesel Range Organics (DRO)	C10C28DRO	**35800**	300	mg/kg	01.09.19 15.49		20
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2820**	300	mg/kg	01.09.19 15.49		20
Total TPH	PHC635	**57900**	300	mg/kg	01.09.19 15.49		20

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	881	%	70-135	01.09.19 15.49	**
o-Terphenyl	84-15-1	774	%	70-135	01.09.19 15.49	**

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-001	Date Collected:	12.28.18 12.25	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.04.19 08.15	Basis:	Wet Weight
Seq Number:	3074886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**32.2**	1.99	mg/kg	01.08.19 04.51		1000
Toluene	108-88-3	**11.0**	1.99	mg/kg	01.08.19 04.51		1000
Ethylbenzene	100-41-4	**9.98**	1.99	mg/kg	01.08.19 04.51		1000
m,p-Xylenes	179601-23-1	<3.98	3.98	mg/kg	01.08.19 04.51	U	1000
o-Xylene	95-47-6	**3.13**	1.99	mg/kg	01.08.19 04.51		1000
Total Xylenes	1330-20-7	**3.13**	1.99	mg/kg	01.08.19 04.51		1000
Total BTEX		**56.3**	1.99	mg/kg	01.08.19 04.51		1000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	01.08.19 04.51	
1,4-Difluorobenzene	540-36-3	125	%	70-130	01.08.19 04.51	

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-002	Date Collected:	12.28.18 12.40	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.08.19 13.00	Basis:	Wet Weight
Seq Number:	3075213				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**615**	4.98	mg/kg	01.09.19 12.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.09.19 10.00	Basis:	Wet Weight
Seq Number:	3075387				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**24700**	300	mg/kg	01.09.19 16.09		20
Diesel Range Organics (DRO)	C10C28DRO	**29300**	300	mg/kg	01.09.19 16.09		20
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2710**	300	mg/kg	01.09.19 16.09		20
Total TPH	PHC635	**56700**	300	mg/kg	01.09.19 16.09		20

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	852	%	70-135	01.09.19 16.09	**
o-Terphenyl	84-15-1	486	%	70-135	01.09.19 16.09	**

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-002	Date Collected:	12.28.18 12.40	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.04.19 08.15	Basis:	Wet Weight
Seq Number:	3074886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**53.3**	10.1	mg/kg	01.08.19 05.29		5000
Toluene	108-88-3	**174**	10.1	mg/kg	01.08.19 05.29		5000
Ethylbenzene	100-41-4	**40.2**	10.1	mg/kg	01.08.19 05.29		5000
m,p-Xylenes	179601-23-1	**253**	20.1	mg/kg	01.08.19 05.29		5000
o-Xylene	95-47-6	**67.6**	10.1	mg/kg	01.08.19 05.29		5000
Total Xylenes	1330-20-7	**321**	10.1	mg/kg	01.08.19 05.29		5000
Total BTEX		**588**	10.1	mg/kg	01.08.19 05.29		5000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.08.19 05.29	
1,4-Difluorobenzene	540-36-3	120	%	70-130	01.08.19 05.29	

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-003	Date Collected:	12.28.18 13.00	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.08.19 13.00	Basis:	Wet Weight
Seq Number:	3075213				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**235**	4.98	mg/kg	01.09.19 12.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.06.19 13.00	Basis:	Wet Weight
Seq Number:	3075245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2790**	15.0	mg/kg	01.09.19 04.07		1
Diesel Range Organics (DRO)	C10C28DRO	**4590**	15.0	mg/kg	01.09.19 04.07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**299**	15.0	mg/kg	01.09.19 04.07		1
Total TPH	PHC635	**7680**	15.0	mg/kg	01.09.19 04.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	163	%	70-135	01.09.19 04.07	**
o-Terphenyl	84-15-1	164	%	70-135	01.09.19 04.07	**

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-003	Date Collected:	12.28.18 13.00	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.04.19 08.15	Basis:	Wet Weight
Seq Number:	3074886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.624**	0.499	mg/kg	01.04.19 18.35		250
Toluene	108-88-3	**8.93**	0.499	mg/kg	01.04.19 18.35		250
Ethylbenzene	100-41-4	**6.24**	0.499	mg/kg	01.04.19 18.35		250
m,p-Xylenes	179601-23-1	**35.3**	0.998	mg/kg	01.04.19 18.35		250
o-Xylene	95-47-6	**10.6**	0.499	mg/kg	01.04.19 18.35		250
Total Xylenes	1330-20-7	**45.9**	0.499	mg/kg	01.04.19 18.35		250
Total BTEX		**61.7**	0.499	mg/kg	01.04.19 18.35		250

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.04.19 18.35	
4-Bromofluorobenzene	460-00-4	167	%	70-130	01.04.19 18.35	**

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-004	Date Collected:	12.28.18 13.15	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.08.19 13.00	Basis:	Wet Weight
Seq Number:	3075213				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.8**	4.96	mg/kg	01.09.19 12.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.09.19 10.00	Basis:	Wet Weight
Seq Number:	3075387				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**17300**	300	mg/kg	01.09.19 15.30		20
Diesel Range Organics (DRO)	C10C28DRO	**21700**	300	mg/kg	01.09.19 15.30		20
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1760**	300	mg/kg	01.09.19 15.30		20
Total TPH	PHC635	**40800**	300	mg/kg	01.09.19 15.30		20

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	717	%	70-135	01.09.19 15.30	**
o-Terphenyl	84-15-1	514	%	70-135	01.09.19 15.30	**

Certificate of Analytical Results 610119

LT Environmental, Inc., Arvada, CO

Remuda N25S 101H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	01.03.19 11.47
Lab Sample Id:	610119-004	Date Collected:	12.28.18 13.15	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.04.19 08.15	Basis:	Wet Weight
Seq Number:	3074886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**29.0**	2.00	mg/kg	01.08.19 05.10	D	1000
Toluene	108-88-3	**1.86**	0.0200	mg/kg	01.04.19 17.57		10
Ethylbenzene	100-41-4	**3.21**	0.0200	mg/kg	01.04.19 17.57		10
m,p-Xylenes	179601-23-1	**4.06**	4.00	mg/kg	01.08.19 05.10	D	1000
o-Xylene	95-47-6	**3.41**	0.0200	mg/kg	01.04.19 17.57		10
Total Xylenes	1330-20-7	**7.47**	0.0200	mg/kg	01.08.19 05.10		1000
Total BTEX		**41.5**	0.0200	mg/kg	01.08.19 05.10		1000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	517	%	70-130	01.04.19 17.57	**
4-Bromofluorobenzene	460-00-4	136	%	70-130	01.04.19 17.57	**

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 610119

LT Environmental, Inc.

Remuda N25S 101H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3075213 Matrix: Solid Date Prep: 01.08.19
MB Sample Id: 7669392-1-BLK LCS Sample Id: 7669392-1-BKS LCSD Sample Id: 7669392-1-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	227	91	242	97	90-110	6	20	mg/kg	01.09.19 09:20	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3075213 Matrix: Soil Date Prep: 01.08.19
Parent Sample Id: 610028-002 MS Sample Id: 610028-002 S MSD Sample Id: 610028-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1210	250	1440	92	1390	72	90-110	4	20	mg/kg	01.09.19 11:08	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3075213 Matrix: Soil Date Prep: 01.08.19
Parent Sample Id: 610511-001 MS Sample Id: 610511-001 S MSD Sample Id: 610511-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	145	249	410	106	411	107	90-110	0	20	mg/kg	01.09.19 09:38	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3075245 Matrix: Solid Date Prep: 01.06.19
MB Sample Id: 7669442-1-BLK LCS Sample Id: 7669442-1-BKS LCSD Sample Id: 7669442-1-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)	<7.99	998	812	81	813	81	70-135	0	20	mg/kg	01.08.19 21:30	
Diesel Range Organics (DRO)	<8.11	998	893	89	899	90	70-135	1	20	mg/kg	01.08.19 21:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		109		110		70-135	%	01.08.19 21:30
o-Terphenyl	135		105		105		70-135	%	01.08.19 21:30

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 610119

LT Environmental, Inc.

Remuda N25S 101H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3075387 Matrix: Solid Date Prep: 01.09.19
MB Sample Id: 7669469-1-BLK LCS Sample Id: 7669469-1-BKS LCSD Sample Id: 7669469-1-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	804	80	851	85	70-135	6	20	mg/kg	01.09.19 11:32	
Diesel Range Organics (DRO)	<8.13	1000	879	88	935	94	70-135	6	20	mg/kg	01.09.19 11:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	78		109		115		70-135	%	01.09.19 11:32
o-Terphenyl	79		107		109		70-135	%	01.09.19 11:32

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3075245 Matrix: Soil Date Prep: 01.06.19
Parent Sample Id: 610028-002 MS Sample Id: 610028-002 S MSD Sample Id: 610028-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	851	85	856	86	70-135	1	20	mg/kg	01.08.19 22:30	
Diesel Range Organics (DRO)	<8.12	999	924	92	936	94	70-135	1	20	mg/kg	01.08.19 22:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		114		70-135	%	01.08.19 22:30
o-Terphenyl	115		110		70-135	%	01.08.19 22:30

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3075387 Matrix: Soil Date Prep: 01.09.19
Parent Sample Id: 610541-001 MS Sample Id: 610541-001 S MSD Sample Id: 610541-001 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)	<8.00	1000	786	79	782	78	70-135	1	20	mg/kg	01.09.19 12:31	
Diesel Range Organics (DRO)	<8.13	1000	863	86	858	86	70-135	1	20	mg/kg	01.09.19 12:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	53	**	52	**	70-135	%	01.09.19 12:31
o-Terphenyl	47	**	47	**	70-135	%	01.09.19 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

QC Summary 610119

LT Environmental, Inc.

Remuda N25S 101H

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

Seq Number: 3074886 Matrix: Solid Date Prep: 01.04.19

MB Sample Id: 7669221-1-BLK LCS Sample Id: 7669221-1-BKS LCSD Sample Id: 7669221-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.109	110	0.111	111	70-130	2	35	mg/kg	01.04.19 09:47	
Toluene	<0.000453	0.0994	0.104	105	0.104	104	70-130	0	35	mg/kg	01.04.19 09:47	
Ethylbenzene	<0.000561	0.0994	0.104	105	0.103	103	70-130	1	35	mg/kg	01.04.19 09:47	
m,p-Xylenes	<0.00101	0.199	0.207	104	0.205	103	70-130	1	35	mg/kg	01.04.19 09:47	
o-Xylene	<0.000342	0.0994	0.103	104	0.103	103	70-130	0	35	mg/kg	01.04.19 09:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		99		101		70-130	%	01.04.19 09:47
4-Bromofluorobenzene	90		93		92		70-130	%	01.04.19 09:47

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

Seq Number: 3074886 Matrix: Soil Date Prep: 01.04.19

Parent Sample Id: 609961-001 MS Sample Id: 609961-001 S MSD Sample Id: 609961-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.104	104	0.100	100	70-130	4	35	mg/kg	01.04.19 10:25	
Toluene	<0.000455	0.0998	0.0989	99	0.0988	99	70-130	0	35	mg/kg	01.04.19 10:25	
Ethylbenzene	<0.000564	0.0998	0.0975	98	0.0973	97	70-130	0	35	mg/kg	01.04.19 10:25	
m,p-Xylenes	<0.00101	0.200	0.194	97	0.195	98	70-130	1	35	mg/kg	01.04.19 10:25	
o-Xylene	<0.000344	0.0998	0.0967	97	0.0963	96	70-130	0	35	mg/kg	01.04.19 10:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		100		70-130	%	01.04.19 10:25
4-Bromofluorobenzene	95		98		70-130	%	01.04.19 10:25

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

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

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

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 12/0119

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

Work Order Comments

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

Project Name:	Remuda N25S 101H	Turn Around	
Project Number:		Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.3 Cor	Thermometer ID:	T8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	12/28/18	1225	.5'	1	X	X	X
SS02	S	12/28/18	1240	.5'	1	X	X	X
SS03	S	12/28/18	1300	.5'	1	X	X	X
SS04	S	12/28/18	1315	.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
1			2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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: 01/03/2019 11:47:00 AM

Work Order #: 610119

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.2
#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: 01/03/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 01/03/2019
Jessica Kramer

Analytical Report 616045

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda North State 101H & 902H

012918200 & 012919011

04-MAR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

04-MAR-19

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

Reference: XENCO Report No(s): **616045**
Remuda North State 101H & 902H
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 616045. 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. 616045 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 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	02-26-19 08:45	0 - 4	616045-001
SW02	S	02-26-19 08:50	0 - 4	616045-002
SW03	S	02-26-19 08:55	0 - 4	616045-003
SW04	S	02-26-19 08:58	0 - 4	616045-004
SW05	S	02-26-19 09:02	0 - 4	616045-005
SW06	S	02-26-19 09:05	0 - 4	616045-006
FS01	S	02-26-19 09:10	6	616045-007
FS02	S	02-26-19 09:15	6	616045-008
FS03	S	02-26-19 11:20	18	616045-009
SW07	S	02-26-19 11:22	0 - 18	616045-010
SW08	S	02-26-19 12:15	0 - 4	616045-011
SW09	S	02-26-19 13:18	0 - 18	616045-012
SW10	S	02-26-19 13:29	0 - 6	616045-013

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRECTED SAMPLE NAMES. NEW VERSION GENERATED. JK 03/04/19
SS08 TO SW08
SS09 TO SW09
SS10 TO SW10

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3080767 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 616045-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 616045-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013.
The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3080782 Inorganic Anions by EPA 300
Lab Sample ID 616045-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 616045-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 616045

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 101H & 902H

Project Id: 012918200 & 012919011
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Thu Feb-28-19 11:35 am
Report Date: 04-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616045-001		616045-002		616045-003		616045-004		616045-005		616045-006	
	Field Id:	SW01		SW02		SW03		SW04		SW05		SW06	
	Depth:	0-4		0-4		0-4		0-4		0-4		0-4	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-26-19 08:45		Feb-26-19 08:50		Feb-26-19 08:55		Feb-26-19 08:58		Feb-26-19 09:02		Feb-26-19 09:05	
BTEX by EPA 8021B	***Extracted:***	Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00	
	Analyzed:	Mar-01-19 05:25		Mar-01-19 05:44		Mar-01-19 06:03		Mar-01-19 06:22		Mar-01-19 06:41		Mar-01-19 07:00	
	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	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00403	0.00403	<0.00399	0.00399	<0.00401	0.00401	<0.00398	0.00398	<0.00400	0.00400	<0.00402	0.00402
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300	***Extracted:***	Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30	
	Analyzed:	Mar-01-19 01:36		Mar-01-19 02:07		Mar-01-19 02:17		Mar-01-19 02:27		Mar-01-19 02:38		Mar-01-19 03:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		108	5.00	74.2	4.99	56.0	4.95	140	4.96	306	5.00	71.8	4.97
TPH by SW8015 Mod	***Extracted:***	Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00	
	Analyzed:	Feb-28-19 22:04		Feb-28-19 23:03		Feb-28-19 23:23		Mar-01-19 06:53		Mar-01-19 00:02		Mar-01-19 00:22	
	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	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		66.7	15.0	<14.9	14.9	<15.0	15.0	41.8	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		66.7	15.0	<14.9	14.9	<15.0	15.0	41.8	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 616045

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 101H & 902H

Project Id: 012918200 & 012919011
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Thu Feb-28-19 11:35 am
Report Date: 04-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616045-007		616045-008		616045-009		616045-010		616045-011		616045-012	
	Field Id:	FS01		FS02		FS03		SW07		SW08		SW09	
	Depth:	6-		6-		18-		0-18		0-4		0-18	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-26-19 09:10		Feb-26-19 09:15		Feb-26-19 11:20		Feb-26-19 11:22		Feb-26-19 12:15		Feb-26-19 13:18	
BTEX by EPA 8021B	***Extracted:***	Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00		Feb-28-19 12:00	
	Analyzed:	Mar-01-19 07:19		Mar-01-19 07:38		Mar-01-19 07:57		Mar-01-19 08:15		Mar-01-19 10:52		Mar-01-19 11:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398	<0.00400	0.00400	<0.00399	0.00399
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30		Feb-28-19 16:30	
	Analyzed:	Mar-01-19 03:19		Mar-01-19 03:29		Mar-01-19 03:40		Mar-01-19 03:50		Mar-01-19 04:00		Mar-01-19 04:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.91	4.99	224	4.96	179	4.98	107	4.99	107	5.00	216	4.97
TPH by SW8015 Mod	***Extracted:***	Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00		Feb-28-19 14:00	
	Analyzed:	Mar-01-19 00:41		Mar-01-19 01:01		Mar-01-19 01:21		Mar-01-19 01:41		Mar-01-19 02:40		Mar-01-19 02:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 616045

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North State 101H & 902H

Project Id: 012918200 & 012919011
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Thu Feb-28-19 11:35 am
Report Date: 04-MAR-19
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	616045-013						
	Field Id:	SW10						
	Depth:	0-6						
	Matrix:	SOIL						
	Sampled:	Feb-26-19 13:29						
BTEX by EPA 8021B	***Extracted:***	Feb-28-19 12:00						
	Analyzed:	Mar-01-19 11:30						
	Units/RL:	mg/kg	RL					
Benzene		<0.00201	0.00201					
Toluene		<0.00201	0.00201					
Ethylbenzene		<0.00201	0.00201					
m,p-Xylenes		<0.00402	0.00402					
o-Xylene		<0.00201	0.00201					
Total Xylenes		<0.00201	0.00201					
Total BTEX		<0.00201	0.00201					
Inorganic Anions by EPA 300	***Extracted:***	Feb-28-19 16:30						
	Analyzed:	Mar-01-19 04:42						
	Units/RL:	mg/kg	RL					
Chloride		46.2	4.96					
TPH by SW8015 Mod	***Extracted:***	Feb-28-19 14:00						
	Analyzed:	Mar-01-19 03:19						
	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					

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-001	Date Collected:	02.26.19 08.45	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**108**	5.00	mg/kg	03.01.19 01.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.19 22.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**66.7**	15.0	mg/kg	02.28.19 22.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.28.19 22.04	U	1
Total TPH	PHC635	**66.7**	15.0	mg/kg	02.28.19 22.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.28.19 22.04	
o-Terphenyl	84-15-1	96	%	70-135	02.28.19 22.04	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-001	Date Collected:	02.26.19 08.45	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.01.19 05.25	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.01.19 05.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.01.19 05.25	
1,4-Difluorobenzene	540-36-3	104	%	70-130	03.01.19 05.25	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-002	Date Collected:	02.26.19 08.50	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**74.2**	4.99	mg/kg	03.01.19 02.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.28.19 23.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.28.19 23.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.28.19 23.03	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.28.19 23.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.28.19 23.03	
o-Terphenyl	84-15-1	94	%	70-135	02.28.19 23.03	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-002	Date Collected:	02.26.19 08.50	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.01.19 05.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 05.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	03.01.19 05.44	
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.01.19 05.44	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-003	Date Collected:	02.26.19 08.55	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.0**	4.95	mg/kg	03.01.19 02.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.19 23.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.19 23.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.28.19 23.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.19 23.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.28.19 23.23	
o-Terphenyl	84-15-1	94	%	70-135	02.28.19 23.23	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-003	Date Collected:	02.26.19 08.55	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.01.19 06.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 06.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 06.03	
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.01.19 06.03	

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-004	Date Collected:	02.26.19 08.58	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**140**	4.96	mg/kg	03.01.19 02.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 06.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.8**	15.0	mg/kg	03.01.19 06.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 06.53	U	1
Total TPH	PHC635	**41.8**	15.0	mg/kg	03.01.19 06.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.01.19 06.53	
o-Terphenyl	84-15-1	97	%	70-135	03.01.19 06.53	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-004	Date Collected:	02.26.19 08.58	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.19 06.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.19 06.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	03.01.19 06.22	
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 06.22	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-005	Date Collected:	02.26.19 09.02	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**306**	5.00	mg/kg	03.01.19 02.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 00.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 00.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 00.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 00.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.01.19 00.02	
o-Terphenyl	84-15-1	92	%	70-135	03.01.19 00.02	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-005	Date Collected:	02.26.19 09.02	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.01.19 06.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 06.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.01.19 06.41	
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 06.41	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-006	Date Collected:	02.26.19 09.05	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.8**	4.97	mg/kg	03.01.19 03.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 00.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 00.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 00.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 00.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 00.22	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 00.22	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-006	Date Collected:	02.26.19 09.05	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.01.19 07.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.01.19 07.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 07.00	
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.01.19 07.00	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-007	Date Collected:	02.26.19 09.10	Sample Depth:	6

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.91**	4.99	mg/kg	03.01.19 03.19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.01.19 00.41	
o-Terphenyl	84-15-1	92	%	70-135	03.01.19 00.41	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-007	Date Collected:	02.26.19 09.10	Sample Depth:	6
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.19 07.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.19 07.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.01.19 07.19	
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 07.19	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-008	Date Collected:	02.26.19 09.15	Sample Depth:	6

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**224**	4.96	mg/kg	03.01.19 03.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 01.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 01.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 01.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 01.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 01.01	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 01.01	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-008	Date Collected:	02.26.19 09.15	Sample Depth:	6
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.01.19 07.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 07.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	03.01.19 07.38	
4-Bromofluorobenzene	460-00-4	113	%	70-130	03.01.19 07.38	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-009	Date Collected:	02.26.19 11.20	Sample Depth:	18

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**179**	4.98	mg/kg	03.01.19 03.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.01.19 01.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.01.19 01.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.01.19 01.21	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.01.19 01.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	03.01.19 01.21	
o-Terphenyl	84-15-1	85	%	70-135	03.01.19 01.21	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-009	Date Collected:	02.26.19 11.20	Sample Depth:	18
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.01.19 07.57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.01.19 07.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.01.19 07.57	
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.01.19 07.57	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-010	Date Collected:	02.26.19 11.22	Sample Depth:	0 - 18

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	4.99	mg/kg	03.01.19 03.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 01.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 01.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 01.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 01.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.01.19 01.41	
o-Terphenyl	84-15-1	92	%	70-135	03.01.19 01.41	

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LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-010	Date Collected:	02.26.19 11.22	Sample Depth:	0 - 18
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.19 08.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.19 08.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.01.19 08.15	
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.01.19 08.15	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-011	Date Collected:	02.26.19 12.15	Sample Depth:	0 - 4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	5.00	mg/kg	03.01.19 04.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 02.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 02.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.01.19 02.40	
o-Terphenyl	84-15-1	94	%	70-135	03.01.19 02.40	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-011	Date Collected:	02.26.19 12.15	Sample Depth:	0 - 4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.01.19 10.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 10.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.01.19 10.52	
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.01.19 10.52	

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-012	Date Collected:	02.26.19 13.18	Sample Depth:	0 - 18

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**216**	4.97	mg/kg	03.01.19 04.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 02.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 02.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 02.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.01.19 02.59	
o-Terphenyl	84-15-1	90	%	70-135	03.01.19 02.59	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-012	Date Collected:	02.26.19 13.18	Sample Depth:	0 - 18
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.01.19 11.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.19 11.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.01.19 11.11	
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.01.19 11.11	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-013	Date Collected:	02.26.19 13.29	Sample Depth:	0 - 6

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.28.19 16.30	Basis:	Wet Weight
Seq Number:	3080782				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**46.2**	4.96	mg/kg	03.01.19 04.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.28.19 14.00	Basis:	Wet Weight
Seq Number:	3080795				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.19 03.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.19 03.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.01.19 03.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.19 03.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.01.19 03.19	
o-Terphenyl	84-15-1	93	%	70-135	03.01.19 03.19	

Certificate of Analytical Results 616045

LT Environmental, Inc., Arvada, CO

Remuda North State 101H & 902H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	02.28.19 11.35
Lab Sample Id:	616045-013	Date Collected:	02.26.19 13.29	Sample Depth:	0 - 6
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.28.19 12.00	Basis:	Wet Weight
Seq Number:	3080767				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.01.19 11.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.01.19 11.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.01.19 11.30	
1,4-Difluorobenzene	540-36-3	114	%	70-130	03.01.19 11.30	

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 616045

LT Environmental, Inc.

Remuda North State 101H & 902H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3080782 Matrix: Solid Date Prep: 02.28.19
MB Sample Id: 7672758-1-BLK LCS Sample Id: 7672758-1-BKS LCSD Sample Id: 7672758-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	261	104	90-110	2	20	mg/kg	03.01.19 01:15	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3080782 Matrix: Soil Date Prep: 02.28.19
Parent Sample Id: 616045-001 MS Sample Id: 616045-001 S MSD Sample Id: 616045-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	108	250	375	107	375	107	90-110	0	20	mg/kg	03.01.19 01:46	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3080782 Matrix: Soil Date Prep: 02.28.19
Parent Sample Id: 616045-011 MS Sample Id: 616045-011 S MSD Sample Id: 616045-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	107	250	398	116	371	106	90-110	7	20	mg/kg	03.01.19 04:11	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080795 Matrix: Solid Date Prep: 02.28.19
MB Sample Id: 7672743-1-BLK LCS Sample Id: 7672743-1-BKS LCSD Sample Id: 7672743-1-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	906	91	900	90	70-135	1	20	mg/kg	02.28.19 21:25	
Diesel Range Organics (DRO)	<8.13	1000	953	95	941	94	70-135	1	20	mg/kg	02.28.19 21:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		126		121		70-135	%	02.28.19 21:25
o-Terphenyl	102		107		100		70-135	%	02.28.19 21:25

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 616045

LT Environmental, Inc.

Remuda North State 101H & 902H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3080795 Matrix: Soil Date Prep: 02.28.19
Parent Sample Id: 616045-001 MS Sample Id: 616045-001 S MSD Sample Id: 616045-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	895	90	891	89	70-135	0	20	mg/kg	02.28.19 22:24	
Diesel Range Organics (DRO)	66.7	999	963	90	968	90	70-135	1	20	mg/kg	02.28.19 22:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		121		70-135	%	02.28.19 22:24
o-Terphenyl	115		112		70-135	%	02.28.19 22:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3080767 Matrix: Solid Date Prep: 02.28.19
MB Sample Id: 7672760-1-BLK LCS Sample Id: 7672760-1-BKS LCSD Sample Id: 7672760-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.117	116	0.112	113	70-130	4	35	mg/kg	03.01.19 03:32	
Toluene	<0.000458	0.101	0.103	102	0.0990	100	70-130	4	35	mg/kg	03.01.19 03:32	
Ethylbenzene	<0.000568	0.101	0.0988	98	0.0955	96	70-130	3	35	mg/kg	03.01.19 03:32	
m,p-Xylenes	<0.00102	0.201	0.196	98	0.191	96	70-130	3	35	mg/kg	03.01.19 03:32	
o-Xylene	<0.000346	0.101	0.0982	97	0.0955	96	70-130	3	35	mg/kg	03.01.19 03:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		107		70-130	%	03.01.19 03:32
4-Bromofluorobenzene	94		99		99		70-130	%	03.01.19 03:32

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3080767 Matrix: Soil Date Prep: 02.28.19
Parent Sample Id: 616045-001 MS Sample Id: 616045-001 S MSD Sample Id: 616045-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0861	86	0.0835	84	70-130	3	35	mg/kg	03.01.19 04:10	
Toluene	<0.000455	0.0998	0.0634	64	0.0597	60	70-130	6	35	mg/kg	03.01.19 04:10	X
Ethylbenzene	<0.000564	0.0998	0.0570	57	0.0556	56	70-130	2	35	mg/kg	03.01.19 04:10	X
m,p-Xylenes	<0.00101	0.200	0.0971	49	0.100	50	70-130	3	35	mg/kg	03.01.19 04:10	X
o-Xylene	0.00105	0.0998	0.0672	66	0.0663	65	70-130	1	35	mg/kg	03.01.19 04:10	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		107		70-130	%	03.01.19 04:10
4-Bromofluorobenzene	107		109		70-130	%	03.01.19 04:10

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: 1e1l0045

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

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com; mwills@ltenv.com

Work Order Comments

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

Project Name:	Remuda North State 101H & 902H	Turn Around	
Project Number:	012918200 & 012919011	Routine ☐	
P.O. Number:	2RP-5181 & 2RP-5139	Rush:	
Sampler's Name:	Martin Wills	Due Date: 3/1/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.3/0.2	Thermometer ID	IR6	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW01	S	2/26/2019	845	0-4	1	X	X	X
SW02	S	2/26/2019	850	0-4	1	X	X	X
SW03	S	2/26/2019	855	0-4	1	X	X	X
SW04	S	2/26/2019	858	0-6	1	X	X	X
SW05	S	2/26/2019	902	0-6	1	X	X	X
SW06	S	2/26/2019	905	0-6	1	X	X	X
FS01	S	2/26/2019	910	6	1	X	X	X
FS02	S	2/26/2019	915	6	1	X	X	X
FS03	S	2/26/2019	1120	18	1	X	X	X
SW07	S	2/26/2019	1122	0-18	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2/27/19@1150	2		2/28/19 1135
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.001

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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: 1e1160415

www.xenco.com Page 2 of 2

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
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City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com; mwills@ltenv.com

Work Order Comments

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

Project Name:	Remuda North State 101H & 902H	Turn Around	
Project Number:	012918200 & 012919011	Routine ☐	
P.O. Number:	2RP-5181 & 2RP-5139	Rush:	
Sampler's Name:	Martin Wills	Due Date: 3/1/19	

SAMPLE RECEIPT			
Temperature (°C):	0.3/0.2	Temp Blank: Yes (No)	Wet Ice: (Yes) No
Received Intact:	(Yes) No	Thermometer ID:	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes No N/A	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS08	S	2/26/2019	1215	0-4	1	X	X	X
SS09	S	2/26/2019	1318	0-18	1	X	X	X
SS10	S	2/26/2019	1329	0-6	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2/27/19@1150	2		2/28/19 1135
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/28/2019 11:35:00 AM

Work Order #: 616045

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.2
#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: 02/28/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/28/2019

Jessica Kramer

Southeastern view of the contaminated area on the caliche well pad at the commencement of excavation activities.

Project: 012918200	XTO Energy, Inc. Remuda North 25 State 101H	LTE Advancing Opportunity
February 25, 2019	Photographic Log	

View of the excavation area southern boundary.

Project: 012918200	XTO Energy, Inc. Remuda North 25 State 101H	LTE Advancing Opportunity
February 25, 2019	Photographic Log	

View of excavation facing southwest.

Project: 012918200	XTO Energy, Inc. Remuda North 25 State 101H	LTE Advancing Opportunity
February 26, 2019	Photographic Log	