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	NAB1907758382
District RP	2 2RP-5300
Facility ID	
Application ID	pAB1907758096

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)* NAB1907758382
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.25946 Longitude -103.92250
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda North 31 State 123H	Site Type Production Well Facility
Date Release Discovered 2/21/2019	API# *(if applicable)* 30-015-44414

Unit Letter	Section	Township	Range	County
K	31	23S	30E	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 10	Volume Recovered (bbls) 3
	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

While filling frac tanks, a hose fell out of the top of the tank and released fluid to the well pad. A vacuum truck recovered free standing fluid. An environmental contractor will be retained to assist with remediation efforts when frac/completion activities are concluded.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2 2RP-5300
Facility ID	
Application ID	pAB1907758096

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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 3/7/2019

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

OCD Only

Received by: Date: 3/18/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/16/2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/16/2019

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

December 16, 2019

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

RE: Closure Request
Remuda North 31 State 123H
Remediation Permit Number 2RP-5300
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following request detailing site assessment and soil sampling activities at the Remuda North 31 State 123H (Site) in Unit K, Section 31, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following a release of produced water at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting No Further Action (NFA) for Remediation Permit (RP) Number 2RP-5300.

RELEASE BACKGROUND

On February 21, 2019, while filling frac tanks, a hose fell out of the top of the tank and released approximately 10 barrels (bbls) of fluid on to the well pad. A vacuum truck recovered the free standing fluid, a volume estimated to be approximately 3 bbls. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on March 7, 2019 and was assigned RP Number 2RP-5300 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is New Mexico Office of State Engineers (NM OSE) well C 02108, located almost 2.14 miles south of the Site. The water well has a depth to groundwater of approximately 186 feet bgs and a total depth of 200 feet bgs. Ground surface elevation at the water well location is

3,200 feet above mean seal level. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 450 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake, and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium potential karst area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On April 9, 2019, LTE personnel conducted site reconnaissance to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected three preliminary soil samples (SS01 through SS03) within the release extent from a depth of approximately 0.5 feet bgs to assess for the presence or absence of soil impacts. Soil was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Based on laboratory analytical results for the preliminary soil samples, excavation activities did not appear to be warranted; however, additional assessment activities were scheduled.

Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

On November 6, 2019, and November 14, 2019, LTE personnel returned to the Site to conduct soil assessment activities to further confirm the presence or absence of impacted soil. Boreholes were advanced via hand-auger at four locations (BH01 through BH04) on November 6, 2019. Boreholes BH01 through BH04 were advanced at various depths ranging from 0.5 feet to 2 feet bgs. Additional delineation soil samples were collected from boreholes BH02 and BH04, at a depth of 2 feet bgs (BH02A and BH04A). On November 14, 2019, three potholes were advanced within the release extent using a track-mounted backhoe and soil samples were obtained at depths of 2 feet bgs (PH01 through PH03).

Soil from the boreholes was field screened for volatile aromatic hydrocarbons utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each borehole were logged on lithologic/soil sampling logs (Attachment 3). The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. All boreholes were backfilled with the soil removed. The boreholes and delineation soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS01 through SS03 collected at approximately 0.5 feet bgs, in delineation borehole soil samples BH01 collected at 1.5 feet bgs, BH02 through BH04 collected at 0.5 feet bgs, BH02A and BH04A collected at 2 feet bgs, and in samples PH01 through PH03 collected at 2 feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Preliminary soil samples SS01 through SS03 and delineation soil samples BH01, BH02/ BH02A, BH03, BH04/BH04A, and PH01 through PH03 were collected from within the release extent from depths ranging from 0.5 feet to 2 feet bgs to assess for the presence or absence of soil impacts as a result of the release on March 7, 2019. Laboratory analytical results for all soil samples indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, field screening of soil indicated that volatile aromatic hydrocarbons and chloride concentrations were not elevated and soil staining and petroleum hydrocarbon odors were not identified within the release extent.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria, no impacted soil was identified and no soil excavation was required as a result of the crude oil release. XTO requests NFA for RP Number 2RP-5300. An updated Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Christa-Marie Leibli, P.G.
Senior Hydrogeologist

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5300)
Attachment 2	Photographic Log
Attachment 3	Lithologic/Soil Sampling Logs
Attachment 3	Laboratory Analytical Reports

FIGURES

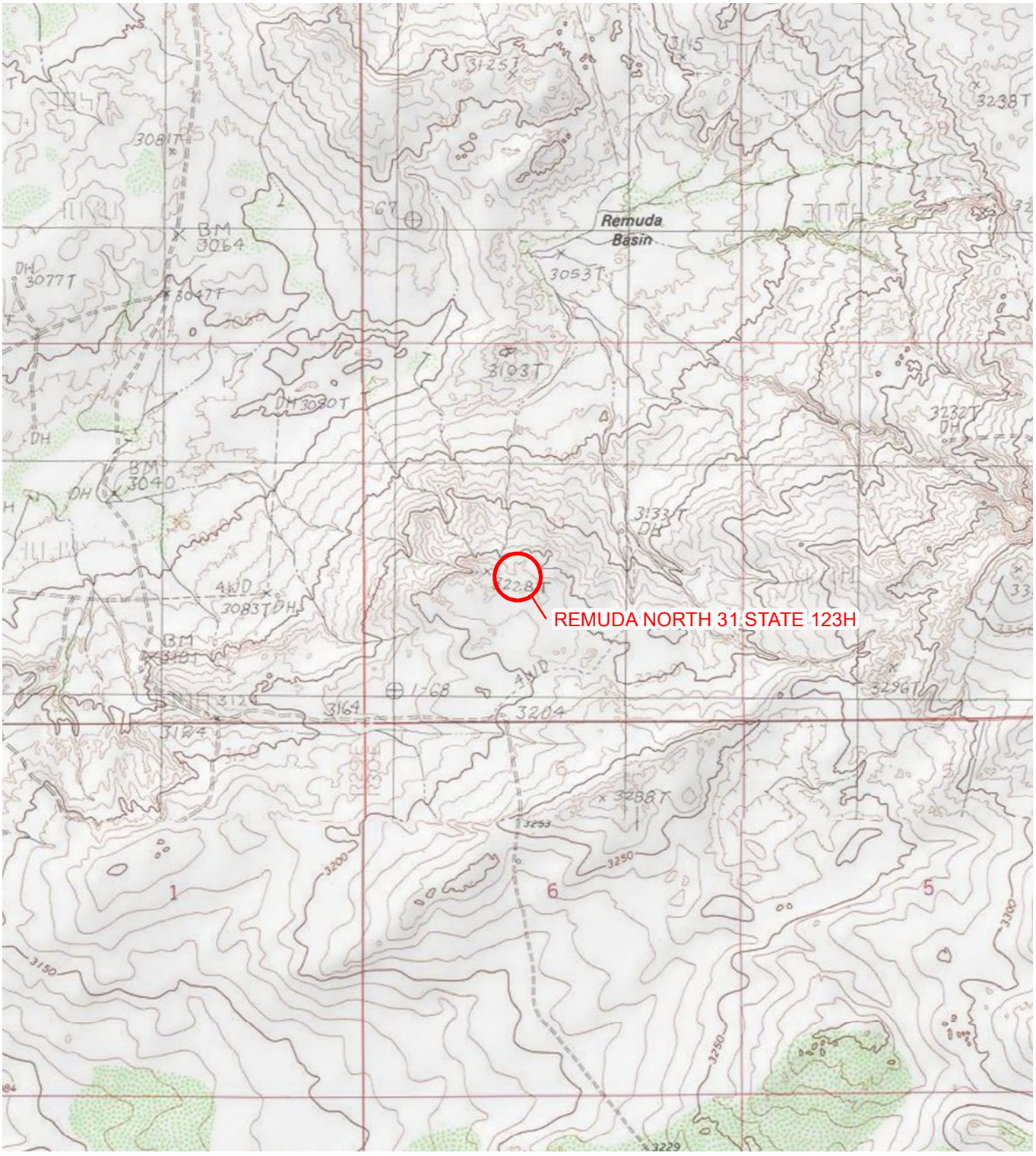


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

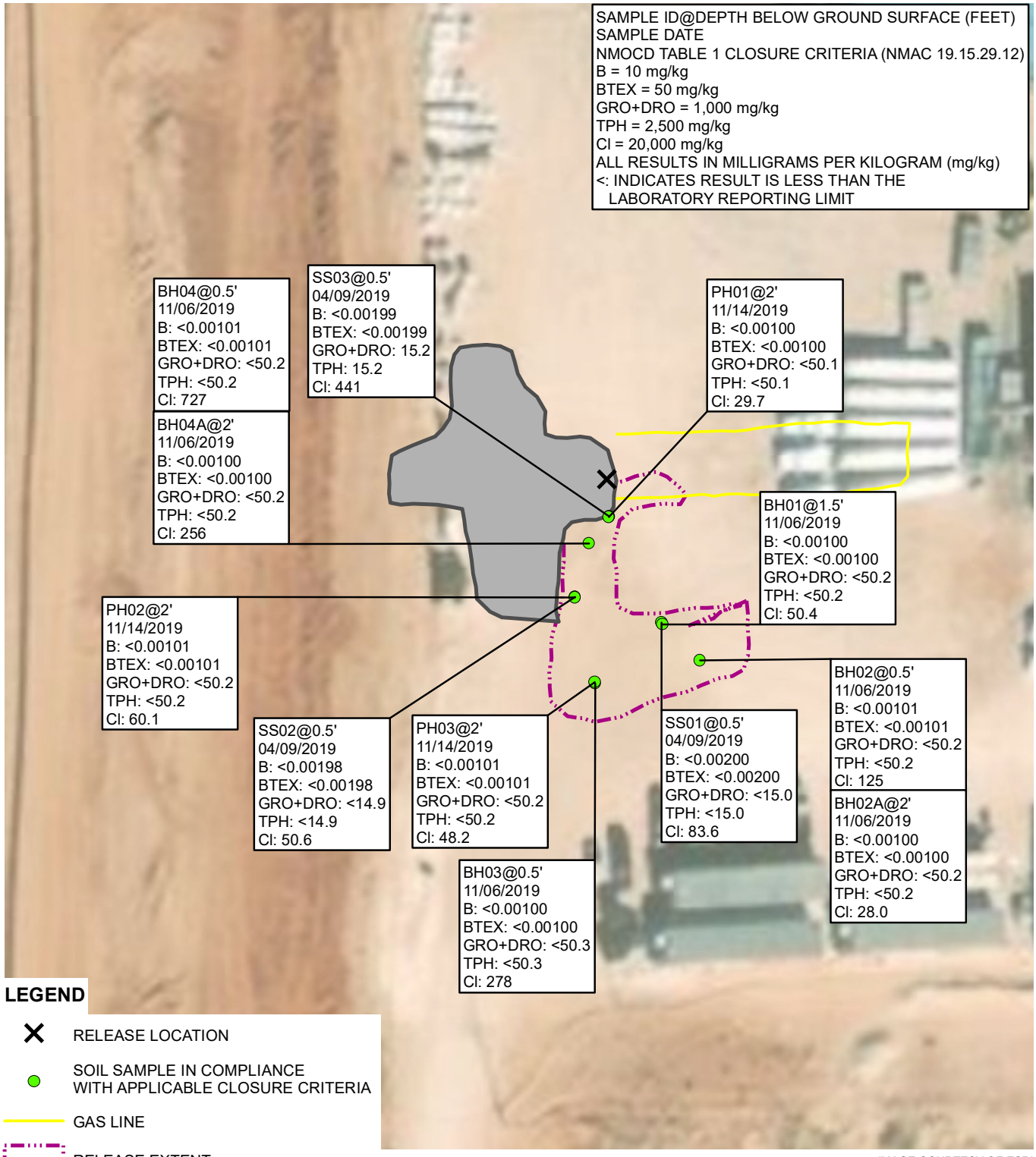
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5300

FIGURE 1
SITE LOCATION MAP
REMUDA NORTH 31 STATE 123H
UNIT K SEC 31 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919037_REMUDA NORTH 31 STATE 123H\012919037_FIG01_SL_5300.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5300

FIGURE 2
SOIL SAMPLE LOCATIONS
REMUDA NORTH 31 STATE 123H
UNIT K SEC 31 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919037_REMUDA NORTH 31 STATE 123H\012919037_FIG02_SS LOC_5300.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

REMUDA NORTH 31 STATE 123H
REMEDIATION PERMIT NUMBER 2RP-5300
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	04/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	83.6
SS02	0.5	04/09/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	50.6
SS03	0.5	04/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	15.2	<15.0	15.2	15.2	441
BH01	1.5	11/06/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	50.4
BH02	0.5	11/06/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	125
BH02A	2.0	11/06/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	28.0
BH03	0.5	11/06/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	278
BH04	0.5	11/06/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	727
BH04A	2.0	11/06/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	256
PH01	2.0	11/14/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	29.7
PH02	2.0	11/14/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	60.1
PH03	2.0	11/14/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	48.2
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5300)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
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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.
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Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAB1907758382
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Facility ID	
Application ID	pAB1907758096

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)* NAB1907758382
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.25946 Longitude -103.92250
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda North 31 State 123H	Site Type Production Well Facility
Date Release Discovered 2/21/2019	API# *(if applicable)* 30-015-44414

Unit Letter	Section	Township	Range	County
K	31	23S	30E	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 10	Volume Recovered (bbls) 3
	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

While filling frac tanks, a hose fell out of the top of the tank and released fluid to the well pad. A vacuum truck recovered free standing fluid. An environmental contractor will be retained to assist with remediation efforts when frac/completion activities are concluded.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2 2RP-5300
Facility ID	
Application ID	pAB1907758096

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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 3/7/2019

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

OCD Only

Received by: Date: 3/18/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/16/2019

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

OCD Only

Received by: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907758382
District RP	2RP-5300
Facility ID	
Application ID	pAB1907758096

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/16/2019

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

ATTACHMENT 2: PHOTOGRAPHIC LOG

Photo 1 Northeast facing view of sample locations

Photo 2 North facing view of sample locations

ATTACHMENT 3: LITHOLOGIC/SOIL SAMPLING LOGS

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

Identifier:	Date:
BH01	11/6/19
Project Name: Remuda North 81 1231H	RP Number: 2RP-5300
Logged By: Ellie N	Method: Hand Auger
Hole Diameter:	Total Depth:
Field Screening:	
Lat/Long:	

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	>112	0.3	N		1	1.5ft	S	orange/brown caliche, trace silt
					2			
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

1030

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

Identifier: BH02	Date: 11/6/19
Project Name: Remuda North 31 123H	RP Number: 2RP-5300
Logged By: Ellie	Method: Hand Auger
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1205 D	>112	0.0	N		1	0.5ft	S	brown, caliche, trace silt ↓
1214 D	>112	0.2	N		2	2ft	S	
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

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

Identifier:	Date:
BH03	11/6/19
Project Name: Remuda North 31 123H	RP Number: 2RP-5300
Logged By: Ellie	Method: Hand Auger
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	330	0.2	N		1	0.5	S	brown, caliche, trace silt
					2			
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

1405

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

Identifier:	Date:
BH04	11/6/19
Project Name: Remuda North 31 123H	RP Number: 2RP-5300
Logged By: Ellie	Method: Hand Auger
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1455 D	799	0.2	N		1	0.5ft	S	brown/gray caliche trace silt ↓
1540 D	421	0.1	N		2	2ft	S	
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

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

Identifier: PH 01	Date: 11/14/19
Project Name: Remuda North 31-123H	RP Number: 2RP-5300
Logged By: Will	Method:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	>128	0.6	N		1 2 3 4 6 8 10 12 14 16 18 20 12	2ft	S	fine-med sand, clay, C, LP, Rd/Br, PS

1428

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

Identifier:	Date:
PH 02	11/14/19
Project Name: Remuda North 31 123H	RP Number: 2RP-5300
Logged By: WH	Method:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	>128	0.3	N		1 2 3 4 6 8 10 12 14 16 18 20 12	2ft	S	fine-med sand, clay, C, LP, dry, RE/Br, PS

1457

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

Identifier:	Date:
PH03	11/14/19
Project Name: Remuda North 31 123H	RP Number: 2RP-5300
Logged By: Will	Method:
Lat/Long:	Field Screening:
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	>128	0.2	N		1 2 3 4 6 8 10 12 14 16 18 20 12	2ft	S	Fine-med sand, clay, c, LP. dry, Rd/Br PS

PH03

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 620940

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remunda North 31 State 123H

15-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

15-APR-19

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

Reference: XENCO Report No(s): **620940**
Remunda North 31 State 123H
Project Address: ---

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 620940. 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. 620940 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kalei Stout
Midland Laboratory Director

Sample Cross Reference 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	04-09-19 10:00	0.5	620940-001
SS02	S	04-09-19 10:15	0.5	620940-002
SS03	S	04-09-19 10:35	0.5	620940-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remunda North 31 State 123H

Project ID: ---
Work Order Number(s): *620940*

Report Date: *15-APR-19*
Date Received: *04/12/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085717 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 620940-002.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 620940

LT Environmental, Inc., Arvada, CO

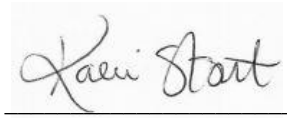
Project Name: Remunda North 31 State 123H

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

Date Received in Lab: Fri Apr-12-19 10:52 am
Report Date: 15-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	620940-001		620940-002		620940-003							
	Field Id:	SS01		SS02		SS03							
	Depth:	0.5-		0.5-		0.5-							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Apr-09-19 10:00		Apr-09-19 10:15		Apr-09-19 10:35							
BTEX by EPA 8021B	***Extracted:***	Apr-14-19 16:07		Apr-14-19 16:07		Apr-14-19 16:07							
	Analyzed:	Apr-15-19 00:42		Apr-15-19 01:00		Apr-15-19 01:20							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
m,p-Xylenes		<0.00399	0.00399	<0.00397	0.00397	<0.00398	0.00398						
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199						
Chloride by EPA 300	***Extracted:***	Apr-12-19 17:00		Apr-12-19 17:00		Apr-12-19 17:00							
	Analyzed:	Apr-14-19 18:39		Apr-14-19 18:46		Apr-14-19 18:54							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		83.6	4.97	50.6	50.1	441	25.2						
TPH by SW8015 Mod	***Extracted:***	Apr-13-19 09:00		Apr-13-19 09:00		Apr-13-19 09:00							
	Analyzed:	Apr-13-19 17:41		Apr-13-19 18:00		Apr-13-19 18:20							
	Units/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						
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	15.2	15.0						
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0						
Total TPH		<15.0	15.0	<14.9	14.9	15.2	15.0						
Total GRO-DRO		<15.0	15.0	<14.9	14.9	15.2	15.0						

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



Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-001	Date Collected:	04.09.19 10.00	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.12.19 17.00	Basis:	Wet Weight
Seq Number:	3085667				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**83.6**	4.97	mg/kg	04.14.19 18.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.13.19 09.00	Basis:	Wet Weight
Seq Number:	3085698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.13.19 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.13.19 17.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.13.19 17.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.13.19 17.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	04.13.19 17.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.13.19 17.41	
o-Terphenyl	84-15-1	99	%	70-135	04.13.19 17.41	

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-001	Date Collected:	04.09.19 10.00	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.14.19 16.07	Basis:	Wet Weight
Seq Number:	3085717				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.15.19 00.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.15.19 00.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.15.19 00.42	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.15.19 00.42	

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-002	Date Collected:	04.09.19 10.15	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.12.19 17.00	Basis:	Wet Weight
Seq Number:	3085667				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**50.6**	50.1	mg/kg	04.14.19 18.46		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.13.19 09.00	Basis:	Wet Weight
Seq Number:	3085698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.13.19 18.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.13.19 18.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.13.19 18.00	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.13.19 18.00	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	04.13.19 18.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.13.19 18.00	
o-Terphenyl	84-15-1	99	%	70-135	04.13.19 18.00	

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-002	Date Collected:	04.09.19 10.15	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.14.19 16.07	Basis:	Wet Weight
Seq Number:	3085717				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.15.19 01.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.15.19 01.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.15.19 01.00	
4-Bromofluorobenzene	460-00-4	131	%	70-130	04.15.19 01.00	**

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-003	Date Collected:	04.09.19 10.35	Sample Depth:	0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	04.12.19 17.00	Basis:	Wet Weight
Seq Number:	3085667				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**441**	25.2	mg/kg	04.14.19 18.54		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.13.19 09.00	Basis:	Wet Weight
Seq Number:	3085698				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.13.19 18.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	**15.2**	15.0	mg/kg	04.13.19 18.20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.13.19 18.20	U	1
Total TPH	PHC635	**15.2**	15.0	mg/kg	04.13.19 18.20		1
Total GRO-DRO	PHC628	**15.2**	15.0	mg/kg	04.13.19 18.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.13.19 18.20	
o-Terphenyl	84-15-1	93	%	70-135	04.13.19 18.20	

Certificate of Analytical Results 620940

LT Environmental, Inc., Arvada, CO

Remunda North 31 State 123H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	04.12.19 10.52
Lab Sample Id:	620940-003	Date Collected:	04.09.19 10.35	Sample Depth:	0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.14.19 16.07	Basis:	Wet Weight
Seq Number:	3085717				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.15.19 01.20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.15.19 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	04.15.19 01.20	
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.15.19 01.20	

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 620940

LT Environmental, Inc.

Remunda North 31 State 123H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3085667 — Matrix: Solid — Date Prep: 04.12.19
MB Sample Id: 7675689-1-BLK — LCS Sample Id: 7675689-1-BKS — LCSD Sample Id: 7675689-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	259	104	264	106	90-110	2	20	mg/kg	04.14.19 17:56	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3085667 — Matrix: Soil — Date Prep: 04.12.19
Parent Sample Id: 620943-004 — MS Sample Id: 620943-004 S — MSD Sample Id: 620943-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.9	249	291	104	294	105	90-110	1	20	mg/kg	04.14.19 20:14	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3085667 — Matrix: Soil — Date Prep: 04.12.19
Parent Sample Id: 620944-002 — MS Sample Id: 620944-002 S — MSD Sample Id: 620944-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.18	252	282	111	250	98	90-110	12	20	mg/kg	04.14.19 18:18	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3085698 — Matrix: Solid — Date Prep: 04.13.19
MB Sample Id: 7675750-1-BLK — LCS Sample Id: 7675750-1-BKS — LCSD Sample Id: 7675750-1-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	928	93	966	97	70-135	4	20	mg/kg	04.13.19 10:34	
Diesel Range Organics (DRO)	<8.13	1000	965	97	987	99	70-135	2	20	mg/kg	04.13.19 10:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		123		124		70-135	%	04.13.19 10:34
o-Terphenyl	107		120		119		70-135	%	04.13.19 10:34

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 620940

LT Environmental, Inc.

Remunda North 31 State 123H

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3085698 — Matrix: Soil — Date Prep: 04.13.19
Parent Sample Id: 620782-001 — MS Sample Id: 620782-001 S — MSD Sample Id: 620782-001 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	1010	101	1040	104	70-135	3	20	mg/kg	04.13.19 11:32	
Diesel Range Organics (DRO)	124	999	1220	110	1240	112	70-135	2	20	mg/kg	04.13.19 11:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		128		70-135	%	04.13.19 11:32
o-Terphenyl	116		119		70-135	%	04.13.19 11:32

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3085717 — Matrix: Solid — Date Prep: 04.14.19
MB Sample Id: 7675773-1-BLK — LCS Sample Id: 7675773-1-BKS — LCSD Sample Id: 7675773-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.100	101	0.0939	94	70-130	6	35	mg/kg	04.14.19 18:06	
Toluene	<0.00198	0.0992	0.0996	100	0.0951	95	70-130	5	35	mg/kg	04.14.19 18:06	
Ethylbenzene	<0.00198	0.0992	0.105	106	0.0997	100	70-130	5	35	mg/kg	04.14.19 18:06	
m,p-Xylenes	<0.00101	0.198	0.210	106	0.201	101	70-130	4	35	mg/kg	04.14.19 18:06	
o-Xylene	<0.00198	0.0992	0.105	106	0.102	102	70-130	3	35	mg/kg	04.14.19 18:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		96		96		70-130	%	04.14.19 18:06
4-Bromofluorobenzene	105		106		106		70-130	%	04.14.19 18:06

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3085717 — Matrix: Soil — Date Prep: 04.14.19
Parent Sample Id: 620919-001 — MS Sample Id: 620919-001 S — MSD Sample Id: 620919-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0550	55	0.0570	57	70-130	4	35	mg/kg	04.14.19 18:44	X
Toluene	<0.00199	0.0996	0.0675	68	0.0710	71	70-130	5	35	mg/kg	04.14.19 18:44	X
Ethylbenzene	<0.00199	0.0996	0.0663	67	0.0699	70	70-130	5	35	mg/kg	04.14.19 18:44	X
m,p-Xylenes	0.00273	0.199	0.141	69	0.149	73	70-130	6	35	mg/kg	04.14.19 18:44	X
o-Xylene	<0.00199	0.0996	0.0722	72	0.0772	77	70-130	7	35	mg/kg	04.14.19 18:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		88		70-130	%	04.14.19 18:44
4-Bromofluorobenzene	123		128		70-130	%	04.14.19 18:44

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

Chain of Custody

Work Order No: 1620940

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Remuda North 31 State 123H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-5300	Rush: 3day	
Sampler's Name:	Robert M.	Due Date: 04/15/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.2 / 0.1	Thermometer ID:	VE	
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)	Sample Comments
SS01	S	04/09/19	1000	0.5	1	X	X	X	discrete
SS02	↓	↓	1015	↓	↓	X	X	X	↓
SS03	↓	↓	1035	↓	↓	X	X	X	↓

Work Order Notes

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

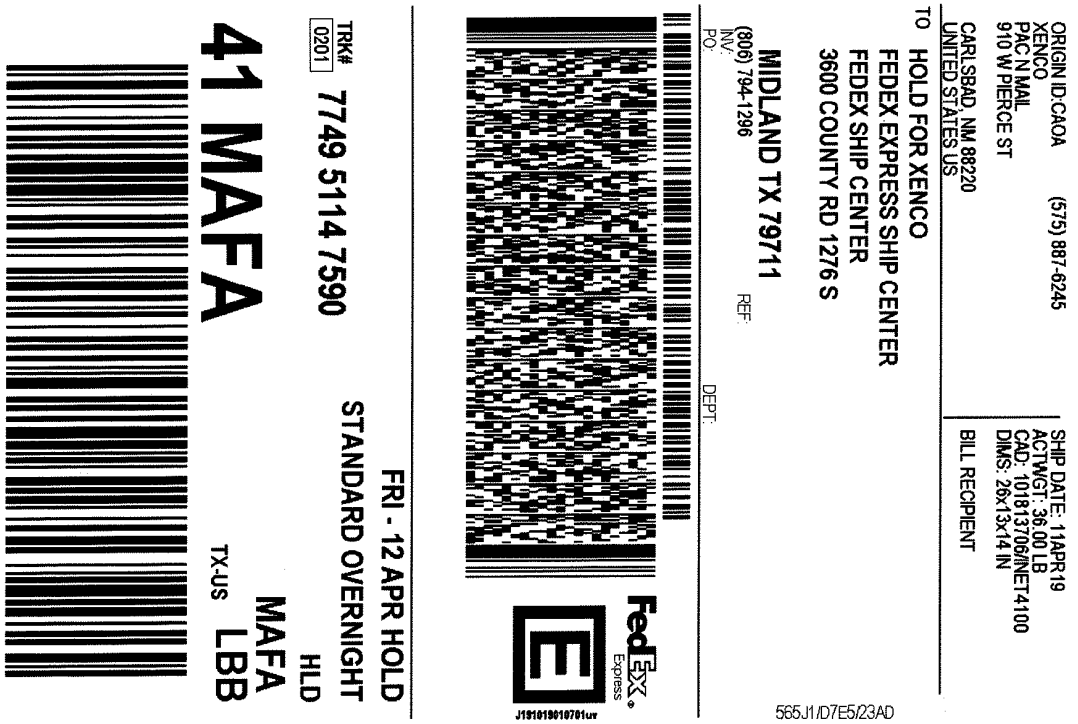
ANALYSIS REQUEST

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Roberto Mendez	John R Ray	4/10/19 @ 1545	John R Ray	BVM	4/12/19 1050
3						
5				6		

Revised Date 051418 Rev. 2018.1

7749S1147.596



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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/12/2019 10:52:00 AM

Work Order #: 620940

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/12/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/12/2019

Kalei Stout

Analytical Report 642401

for

LT Environmental, Inc.

Project Manager: Dan Moir

Remuda North 31 123H

012919037

08-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

08-NOV-19

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

Reference: XENCO Report No(s): **642401**
Remuda North 31 123H
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 642401. 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. 642401 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A	S	11-06-19 10:30	1.5 ft	642401-001
SS04	S	11-06-19 12:05	0.5 ft	642401-002
SS04A	S	11-06-19 12:40	2.0 ft	642401-003
SS05	S	11-06-19 14:05	0.5 ft	642401-004
SS06	S	11-06-19 14:55	0.5 ft	642401-005
SS06A	S	11-06-19 15:40	2.0 ft	642401-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remuda North 31 123H

Project ID: *012919037*
Work Order Number(s): *642401*

Report Date: *08-NOV-19*
Date Received: *11/07/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106794 Chloride by EPA 300
Lab Sample ID 642404-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642401-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106830 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3106866 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689850-1-BKS,642401-001 SD.

Certificate of Analysis Summary 642401

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 31 123H

Project Id: 012919037
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Nov-07-19 08:20 am
Report Date: 08-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	642401-001		642401-002		642401-003		642401-004		642401-005		642401-006	
	Field Id:	SS01A		SS04		SS04A		SS05		SS06		SS06A	
	Depth:	1.5- ft		0.5- ft		2.0- ft		0.5- ft		0.5- ft		2.0- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-19 10:30		Nov-06-19 12:05		Nov-06-19 12:40		Nov-06-19 14:05		Nov-06-19 14:55		Nov-06-19 15:40	
BTEX by EPA 8021B	***Extracted:***	Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23	
	Analyzed:	Nov-07-19 12:52		Nov-07-19 13:11		Nov-07-19 13:30		Nov-07-19 13:49		Nov-07-19 14:08		Nov-07-19 14:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
m,p-Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00201	0.00201
o-Xylene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Chloride by EPA 300	***Extracted:***	Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11	
	Analyzed:	Nov-07-19 11:59		Nov-07-19 12:16		Nov-07-19 12:22		Nov-07-19 12:28		Nov-07-19 12:34		Nov-07-19 12:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		50.4	10.0	125	101	28.0	10.0	278	200	727	200	256	49.9
TPH by SW8015 Mod	***Extracted:***	Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00	
	Analyzed:	Nov-07-19 15:24		Nov-07-19 16:23		Nov-07-19 16:42		Nov-07-19 17:02		Nov-07-19 17:22		Nov-07-19 17:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Total GRO-DRO		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Total TPH		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-001	Date Collected:	11.06.19 10.30	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**50.4**	10.0	mg/kg	11.07.19 11.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.07.19 15.24	
o-Terphenyl	84-15-1	116	%	70-135	11.07.19 15.24	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-001	Date Collected:	11.06.19 10.30	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 12.52	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.07.19 12.52	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.07.19 12.52	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-002	Date Collected:	11.06.19 12.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	101	mg/kg	11.07.19 12.16		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.07.19 16.23	
o-Terphenyl	84-15-1	115	%	70-135	11.07.19 16.23	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-002	Date Collected:	11.06.19 12.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.07.19 13.11	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 13.11	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.11	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-003	Date Collected:	11.06.19 12.40	Sample Depth:	2.0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.0**	10.0	mg/kg	11.07.19 12.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.07.19 16.42	
o-Terphenyl	84-15-1	116	%	70-135	11.07.19 16.42	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-003	Date Collected:	11.06.19 12.40	Sample Depth:	2.0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 13.30	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.30	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.07.19 13.30	

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Remuda North 31 123H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-004	Date Collected:	11.06.19 14.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**278**	200	mg/kg	11.07.19 12.28		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.07.19 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.07.19 17.02	
o-Terphenyl	84-15-1	112	%	70-135	11.07.19 17.02	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-004	Date Collected:	11.06.19 14.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 13.49	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.07.19 13.49	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.49	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-005	Date Collected:	11.06.19 14.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**727**	200	mg/kg	11.07.19 12.34		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 17.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.07.19 17.22	
o-Terphenyl	84-15-1	109	%	70-135	11.07.19 17.22	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-005	Date Collected:	11.06.19 14.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 14.08	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.07.19 14.08	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.07.19 14.08	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS06A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-006	Date Collected:	11.06.19 15.40	Sample Depth:	2.0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**256**	49.9	mg/kg	11.07.19 12.52		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 17.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	11.07.19 17.41	
o-Terphenyl	84-15-1	117	%	70-135	11.07.19 17.41	

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LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**SS06A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-006	Date Collected:	11.06.19 15.40	Sample Depth:	2.0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 14.28	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 14.28	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 14.28	

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 642401

LT Environmental, Inc.

Remuda North 31 123H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689788-1-BLK — LCS Sample Id: 7689788-1-BKS — LCSD Sample Id: 7689788-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	270	108	268	107	90-110	1	20	mg/kg	11.07.19 11:05	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642401-001 — MS Sample Id: 642401-001 S — MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	50.4	202	278	113	273	111	90-110	2	20	mg/kg	11.07.19 12:05	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642404-005 — MS Sample Id: 642404-005 S — MSD Sample Id: 642404-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13300	10200	26500	129	25800	127	90-110	3	20	mg/kg	11.07.19 13:28	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106866 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK — LCS Sample Id: 7689850-1-BKS — LCSD Sample Id: 7689850-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	925	93	912	91	70-135	1	35	mg/kg	11.07.19 14:44	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	990	99	70-135	2	35	mg/kg	11.07.19 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		137	**	133		70-135	%	11.07.19 14:44
o-Terphenyl	116		120		119		70-135	%	11.07.19 14:44

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106866 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.07.19 14:25	

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 642401

LT Environmental, Inc.

Remuda North 31 123H

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106866 | Matrix: Soil | Date Prep: 11.07.19
Parent Sample Id: 642401-001 | MS Sample Id: 642401-001 S | MSD Sample Id: 642401-001 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)	<50.0	1000	963	96	975	98	70-135	1	35	mg/kg	11.07.19 15:44	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1050	105	70-135	1	35	mg/kg	11.07.19 15:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		143	**	70-135	%	11.07.19 15:44
o-Terphenyl	128		126		70-135	%	11.07.19 15:44

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106830 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689857-1-BLK | LCS Sample Id: 7689857-1-BKS | LCSD Sample Id: 7689857-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0935	94	0.0893	89	70-130	5	35	mg/kg	11.07.19 10:46	
Toluene	<0.00100	0.100	0.0932	93	0.0908	91	70-130	3	35	mg/kg	11.07.19 10:46	
Ethylbenzene	<0.00100	0.100	0.0928	93	0.0896	90	71-129	4	35	mg/kg	11.07.19 10:46	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.192	96	70-135	3	35	mg/kg	11.07.19 10:46	
o-Xylene	<0.00100	0.100	0.0993	99	0.0965	97	71-133	3	35	mg/kg	11.07.19 10:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		102		70-130	%	11.07.19 10:46
4-Bromofluorobenzene	93		112		115		70-130	%	11.07.19 10:46

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106830 | Matrix: Soil | Date Prep: 11.07.19
Parent Sample Id: 642401-001 | MS Sample Id: 642401-001 S | MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0835	84	0.0954	95	70-130	13	35	mg/kg	11.07.19 20:25	
Toluene	<0.000998	0.0998	0.0863	86	0.101	101	70-130	16	35	mg/kg	11.07.19 20:25	
Ethylbenzene	<0.000998	0.0998	0.0826	83	0.0943	94	71-129	13	35	mg/kg	11.07.19 20:25	
m,p-Xylenes	<0.00200	0.200	0.174	87	0.201	101	70-135	14	35	mg/kg	11.07.19 20:25	
o-Xylene	<0.000998	0.0998	0.0867	87	0.101	101	71-133	15	35	mg/kg	11.07.19 20:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	11.07.19 20:25
4-Bromofluorobenzene	111		115		70-130	%	11.07.19 20:25

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)

Work Order No: 1042401

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Remuda North 31 123H	Turn Around	
Project Number:	012919037	Routine	☐
P.O. Number:	Eddy County	Rush:	24 hours
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.5	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	12

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01 A	S	11/6/19	1030	1.5ft	1	X	X	X
SS04			1205	0.5ft				
SS04A			1240	2.0ft				
SS05			1405	0.5ft				
SS06			1455	0.5ft				
SS06A			1540	2.0ft				

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Elizabeth Naka	Courtney	11/7/19 08:30	2		
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: 11/07/2019 08:20:00 AM

Work Order #: 642401

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/07/2019

Checklist reviewed by: Jessica Kramer Date: 11/08/2019

Jessica Kramer

Analytical Report 642401

for

LT Environmental, Inc.

Project Manager: Dan Moir

Remuda North 31 123H

012919037

21-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

21-NOV-19

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

Reference: XENCO Report No(s): **642401**
Remuda North 31 123H
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 642401. 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. 642401 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 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	11-06-19 10:30	1.5 ft	642401-001
BH02	S	11-06-19 12:05	0.5 ft	642401-002
BH02A	S	11-06-19 12:40	2.0 ft	642401-003
BH03	S	11-06-19 14:05	0.5 ft	642401-004
BH04	S	11-06-19 14:55	0.5 ft	642401-005
BH04A	S	11-06-19 15:40	2.0 ft	642401-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remuda North 31 123H

Project ID: *012919037*
Work Order Number(s): *642401*

Report Date: *21-NOV-19*
Date Received: *11/07/2019*

Sample receipt non conformances and comments:

PER CLIENTS EMAIL CORRECTED SAMPLE NAMES. NEW VERSION GENERATED. JK 11/21/19
SS01 --> BH01
SS04 --> BH02
SS04A --> BH02A
SS05 --> BH03
SS06 --> BH04
SS06A --> BH04A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3106794 Chloride by EPA 300
Lab Sample ID 642404-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642401-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106830 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3106866 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7689850-1-BKS,642401-001 SD.

Certificate of Analysis Summary 642401

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 31 123H

Project Id: 012919037
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Nov-07-19 08:20 am
Report Date: 21-NOV-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	642401-001		642401-002		642401-003		642401-004		642401-005		642401-006	
	Field Id:	BH01		BH02		BH02A		BH03		BH04		BH04A	
	Depth:	1.5- ft		0.5- ft		2.0- ft		0.5- ft		0.5- ft		2.0- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-19 10:30		Nov-06-19 12:05		Nov-06-19 12:40		Nov-06-19 14:05		Nov-06-19 14:55		Nov-06-19 15:40	
BTEX by EPA 8021B	*Extracted:*	Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23		Nov-07-19 09:23	
	Analyzed:	Nov-07-19 12:52		Nov-07-19 13:11		Nov-07-19 13:30		Nov-07-19 13:49		Nov-07-19 14:08		Nov-07-19 14:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
m,p-Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201	<0.00201	0.00201
o-Xylene		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101	<0.00100	0.00100
Chloride by EPA 300	*Extracted:*	Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11		Nov-07-19 10:11	
	Analyzed:	Nov-07-19 11:59		Nov-07-19 12:16		Nov-07-19 12:22		Nov-07-19 12:28		Nov-07-19 12:34		Nov-07-19 12:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		50.4	10.0	125	101	28.0	10.0	278	200	727	200	256	49.9
TPH by SW8015 Mod	*Extracted:*	Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00		Nov-07-19 13:00	
	Analyzed:	Nov-07-19 15:24		Nov-07-19 16:23		Nov-07-19 16:42		Nov-07-19 17:02		Nov-07-19 17:22		Nov-07-19 17:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Total GRO-DRO		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2
Total TPH		<50.2	50.2	<50.2	50.2	<50.2	50.2	<50.3	50.3	<50.2	50.2	<50.2	50.2

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-001	Date Collected:	11.06.19 10.30	Sample Depth:	1.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**50.4**	10.0	mg/kg	11.07.19 11.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 15.24	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.07.19 15.24	
o-Terphenyl	84-15-1	116	%	70-135	11.07.19 15.24	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-001	Date Collected:	11.06.19 10.30	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 12.52	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 12.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.07.19 12.52	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.07.19 12.52	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-002	Date Collected:	11.06.19 12.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	101	mg/kg	11.07.19 12.16		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 16.23	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.07.19 16.23	
o-Terphenyl	84-15-1	115	%	70-135	11.07.19 16.23	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-002	Date Collected:	11.06.19 12.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.07.19 13.11	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 13.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 13.11	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.11	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-003	Date Collected:	11.06.19 12.40	Sample Depth:	2.0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.0**	10.0	mg/kg	11.07.19 12.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 16.42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.07.19 16.42	
o-Terphenyl	84-15-1	116	%	70-135	11.07.19 16.42	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-003	Date Collected:	11.06.19 12.40	Sample Depth:	2.0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.07.19 13.30	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.30	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.07.19 13.30	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-004	Date Collected:	11.06.19 14.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**278**	200	mg/kg	11.07.19 12.28		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.07.19 17.02	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.07.19 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.07.19 17.02	
o-Terphenyl	84-15-1	112	%	70-135	11.07.19 17.02	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-004	Date Collected:	11.06.19 14.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 13.49	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.07.19 13.49	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 13.49	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-005	Date Collected:	11.06.19 14.55	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**727**	200	mg/kg	11.07.19 12.34		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 17.22	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 17.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	11.07.19 17.22	
o-Terphenyl	84-15-1	109	%	70-135	11.07.19 17.22	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-005	Date Collected:	11.06.19 14.55	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 14.08	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.07.19 14.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.07.19 14.08	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.07.19 14.08	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-006	Date Collected:	11.06.19 15.40	Sample Depth:	2.0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 10.11	Basis:	Wet Weight
Seq Number:	3106794				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**256**	49.9	mg/kg	11.07.19 12.52		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.07.19 13.00	Basis:	Wet Weight
Seq Number:	3106866				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.07.19 17.41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.07.19 17.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	11.07.19 17.41	
o-Terphenyl	84-15-1	117	%	70-135	11.07.19 17.41	

Certificate of Analytical Results 642401

LT Environmental, Inc., Arvada, CO

Remuda North 31 123H

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	11.07.19 08.20
Lab Sample Id:	642401-006	Date Collected:	11.06.19 15.40	Sample Depth:	2.0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.07.19 09.23	Basis:	Wet Weight
Seq Number:	3106830				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.07.19 14.28	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.07.19 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.19 14.28	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.07.19 14.28	

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 642401

LT Environmental, Inc.

Remuda North 31 123H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689788-1-BLK — LCS Sample Id: 7689788-1-BKS — LCSD Sample Id: 7689788-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	270	108	268	107	90-110	1	20	mg/kg	11.07.19 11:05	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642401-001 — MS Sample Id: 642401-001 S — MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	50.4	202	278	113	273	111	90-110	2	20	mg/kg	11.07.19 12:05	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3106794 — Matrix: Soil — Date Prep: 11.07.19
Parent Sample Id: 642404-005 — MS Sample Id: 642404-005 S — MSD Sample Id: 642404-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13300	10200	26500	129	25800	127	90-110	3	20	mg/kg	11.07.19 13:28	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106866 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK — LCS Sample Id: 7689850-1-BKS — LCSD Sample Id: 7689850-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	925	93	912	91	70-135	1	35	mg/kg	11.07.19 14:44	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	990	99	70-135	2	35	mg/kg	11.07.19 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		137	**	133		70-135	%	11.07.19 14:44
o-Terphenyl	116		120		119		70-135	%	11.07.19 14:44

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3106866 — Matrix: Solid — Date Prep: 11.07.19
MB Sample Id: 7689850-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.07.19 14:25	

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 642401

LT Environmental, Inc.

Remuda North 31 123H

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3106866 | Matrix: Soil | Date Prep: 11.07.19
Parent Sample Id: 642401-001 | MS Sample Id: 642401-001 S | MSD Sample Id: 642401-001 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)	<50.0	1000	963	96	975	98	70-135	1	35	mg/kg	11.07.19 15:44	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1050	105	70-135	1	35	mg/kg	11.07.19 15:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		143	**	70-135	%	11.07.19 15:44
o-Terphenyl	128		126		70-135	%	11.07.19 15:44

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106830 | Matrix: Solid | Date Prep: 11.07.19
MB Sample Id: 7689857-1-BLK | LCS Sample Id: 7689857-1-BKS | LCSD Sample Id: 7689857-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0935	94	0.0893	89	70-130	5	35	mg/kg	11.07.19 10:46	
Toluene	<0.00100	0.100	0.0932	93	0.0908	91	70-130	3	35	mg/kg	11.07.19 10:46	
Ethylbenzene	<0.00100	0.100	0.0928	93	0.0896	90	71-129	4	35	mg/kg	11.07.19 10:46	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.192	96	70-135	3	35	mg/kg	11.07.19 10:46	
o-Xylene	<0.00100	0.100	0.0993	99	0.0965	97	71-133	3	35	mg/kg	11.07.19 10:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		102		70-130	%	11.07.19 10:46
4-Bromofluorobenzene	93		112		115		70-130	%	11.07.19 10:46

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3106830 | Matrix: Soil | Date Prep: 11.07.19
Parent Sample Id: 642401-001 | MS Sample Id: 642401-001 S | MSD Sample Id: 642401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0835	84	0.0954	95	70-130	13	35	mg/kg	11.07.19 20:25	
Toluene	<0.000998	0.0998	0.0863	86	0.101	101	70-130	16	35	mg/kg	11.07.19 20:25	
Ethylbenzene	<0.000998	0.0998	0.0826	83	0.0943	94	71-129	13	35	mg/kg	11.07.19 20:25	
m,p-Xylenes	<0.00200	0.200	0.174	87	0.201	101	70-135	14	35	mg/kg	11.07.19 20:25	
o-Xylene	<0.000998	0.0998	0.0867	87	0.101	101	71-133	15	35	mg/kg	11.07.19 20:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	11.07.19 20:25
4-Bromofluorobenzene	111		115		70-130	%	11.07.19 20:25

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

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

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

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 1042401

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Remuda North 31 123H	Turn Around	
Project Number:	012919037	Routine	☐
P.O. Number:	Eddy County	Rush:	24 hours
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.5	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	12

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01 A	S	11/6/19	1030	1.5ft	1	X	X	X
SS04			1205	0.5ft				
SS04A			1240	2.0ft				
SS05			1405	0.5ft				
SS06			1455	0.5ft				
SS06A			1540	2.0ft				

CAN

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	Elizabeth Naka	Courtney	11/7/19 08:30	2		
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: 11/07/2019 08:20:00 AM

Work Order #: 642401

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/07/2019

Checklist reviewed by: Jessica Kramer Date: 11/08/2019

Jessica Kramer

Analytical Report 643271

for

LT Environmental, Inc.

Project Manager: Dan Moir

Remuda North 31 State 123 H

012919037

19-NOV-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

19-NOV-19

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

Reference: XENCO Report No(s): **643271**
Remuda North 31 State 123 H
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 643271. 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. 643271 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 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	11-14-19 14:28	2 ft	643271-001
PH02	S	11-14-19 14:37	2 ft	643271-002
PH03	S	11-14-19 14:43	2 ft	643271-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Remuda North 31 State 123 H

Project ID:	*012919037*	Report Date:	*19-NOV-19*
Work Order Number(s):	*643271*	Date Received:	*11/14/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3107730 BTEX by EPA 8021B

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

Certificate of Analysis Summary 643271

LT Environmental, Inc., Arvada, CO

Project Name: Remuda North 31 State 123 H

Project Id: 012919037
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Nov-14-19 04:44 pm
Report Date: 19-NOV-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	643271-001		643271-002		643271-003							
	Field Id:	PH01		PH02		PH03							
	Depth:	2- ft		2- ft		2- ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Nov-14-19 14:28		Nov-14-19 14:37		Nov-14-19 14:43							
BTEX by EPA 8021B	*Extracted:*	Nov-14-19 19:11		Nov-14-19 19:11		Nov-14-19 19:11							
	Analyzed:	Nov-15-19 10:34		Nov-15-19 10:54		Nov-15-19 11:13							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
Toluene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
Ethylbenzene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
m,p-Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201						
o-Xylene		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
Total Xylenes		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
Total BTEX		<0.00100	0.00100	<0.00101	0.00101	<0.00101	0.00101						
Chloride by EPA 300	*Extracted:*	Nov-14-19 18:11		Nov-15-19 07:30		Nov-15-19 07:30							
	Analyzed:	Nov-15-19 10:12		Nov-15-19 10:18		Nov-15-19 10:35							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		29.7	10.0	60.1	10.1	48.2	10.1						
TPH by SW8015 Mod	*Extracted:*	Nov-14-19 17:00		Nov-15-19 17:00		Nov-15-19 17:00							
	Analyzed:	Nov-15-19 15:10		Nov-16-19 01:45		Nov-16-19 03:25							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2						
Diesel Range Organics (DRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2						
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2						
Total GRO-DRO		<50.1	50.1	<50.2	50.2	<50.2	50.2						
Total TPH		<50.1	50.1	<50.2	50.2	<50.2	50.2						

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-001	Date Collected:	11.14.19 14.28	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.14.19 18.11	Basis:	Wet Weight
Seq Number:	3107636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.7**	10.0	mg/kg	11.15.19 10.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.14.19 17.00	Basis:	Wet Weight
Seq Number:	3107677				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.15.19 15.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.15.19 15.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.15.19 15.10	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.15.19 15.10	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.15.19 15.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	11.15.19 15.10	
o-Terphenyl	84-15-1	96	%	70-135	11.15.19 15.10	

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-001	Date Collected:	11.14.19 14.28	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.14.19 19.11	Basis:	Wet Weight
Seq Number:	3107730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.15.19 10.34	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.15.19 10.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	11.15.19 10.34	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.15.19 10.34	

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-002	Date Collected:	11.14.19 14.37	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.15.19 07.30	Basis:	Wet Weight
Seq Number:	3107636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**60.1**	10.1	mg/kg	11.15.19 10.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.15.19 17.00	Basis:	Wet Weight
Seq Number:	3107718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.16.19 01.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.16.19 01.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.16.19 01.45	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.16.19 01.45	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.16.19 01.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	11.16.19 01.45	
o-Terphenyl	84-15-1	104	%	70-135	11.16.19 01.45	

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-002	Date Collected:	11.14.19 14.37	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.14.19 19.11	Basis:	Wet Weight
Seq Number:	3107730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.15.19 10.54	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.15.19 10.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.15.19 10.54	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.15.19 10.54	

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-003	Date Collected:	11.14.19 14.43	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.15.19 07.30	Basis:	Wet Weight
Seq Number:	3107636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**48.2**	10.1	mg/kg	11.15.19 10.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.15.19 17.00	Basis:	Wet Weight
Seq Number:	3107743				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.16.19 03.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.16.19 03.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.16.19 03.25	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.16.19 03.25	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.16.19 03.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.16.19 03.25	
o-Terphenyl	84-15-1	108	%	70-135	11.16.19 03.25	

Certificate of Analytical Results 643271

LT Environmental, Inc., Arvada, CO

Remuda North 31 State 123 H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	11.14.19 16.44
Lab Sample Id:	643271-003	Date Collected:	11.14.19 14.43	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.14.19 19.11	Basis:	Wet Weight
Seq Number:	3107730				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.15.19 11.13	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.15.19 11.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.15.19 11.13	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.15.19 11.13	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 643271

LT Environmental, Inc.

Remuda North 31 State 123 H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107636 — Matrix: Solid — Date Prep: 11.15.19
MB Sample Id: 7690444-1-BLK — LCS Sample Id: 7690444-1-BKS — LCSD Sample Id: 7690444-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	248	99	249	100	90-110	0	20	mg/kg	11.15.19 08:14	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107636 — Matrix: Soil — Date Prep: 11.15.19
Parent Sample Id: 643198-028 — MS Sample Id: 643198-028 S — MSD Sample Id: 643198-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	681	199	860	90	868	94	90-110	1	20	mg/kg	11.15.19 08:32	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3107636 — Matrix: Soil — Date Prep: 11.15.19
Parent Sample Id: 643207-005 — MS Sample Id: 643207-005 S — MSD Sample Id: 643207-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	275	199	477	102	478	102	90-110	0	20	mg/kg	11.15.19 09:54	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3107677 — Matrix: Solid — Date Prep: 11.14.19
MB Sample Id: 7690450-1-BLK — LCS Sample Id: 7690450-1-BKS — LCSD Sample Id: 7690450-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	983	98	916	92	70-135	7	35	mg/kg	11.15.19 08:24	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1030	103	70-135	6	35	mg/kg	11.15.19 08:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		134		125		70-135	%	11.15.19 08:24
o-Terphenyl	114		120		110		70-135	%	11.15.19 08:24

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 643271

LT Environmental, Inc.

Remuda North 31 State 123 H

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3107718 | Matrix: Solid | Date Prep: 11.15.19
MB Sample Id: 7690491-1-BLK | LCS Sample Id: 7690491-1-BKS | LCSD Sample Id: 7690491-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	840	84	884	88	70-135	5	35	mg/kg	11.15.19 17:37	
Diesel Range Organics (DRO)	<50.0	1000	948	95	996	100	70-135	5	35	mg/kg	11.15.19 17:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		101		121		70-135	%	11.15.19 17:37
o-Terphenyl	98		101		107		70-135	%	11.15.19 17:37

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3107743 | Matrix: Solid | Date Prep: 11.15.19
MB Sample Id: 7690519-1-BLK | LCS Sample Id: 7690519-1-BKS | LCSD Sample Id: 7690519-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	896	90	952	95	70-135	6	35	mg/kg	11.16.19 02:25	
Diesel Range Organics (DRO)	<11.5	1000	1010	101	991	99	70-135	2	35	mg/kg	11.16.19 02:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		122		112		70-135	%	11.16.19 02:25
o-Terphenyl	103		105		106		70-135	%	11.16.19 02:25

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3107677 | Matrix: Solid | Date Prep: 11.14.19
MB Sample Id: 7690450-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.15.19 08:04	

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3107718 | Matrix: Solid | Date Prep: 11.15.19
MB Sample Id: 7690491-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.15.19 17:17	

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

QC Summary 643271

LT Environmental, Inc.

Remuda North 31 State 123 H

Analytical Method: TPH by SW8015 Mod
Seq Number: 3107743
Matrix: Solid
MB Sample Id: 7690519-1-BLK
Prep Method: SW8015P
Date Prep: 11.15.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.16.19 02:25	

Analytical Method: TPH by SW8015 Mod
Seq Number: 3107677
Parent Sample Id: 643198-033
Matrix: Soil
MS Sample Id: 643198-033 S
Prep Method: SW8015P
Date Prep: 11.14.19
MSD Sample Id: 643198-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	917	91	905	91	70-135	1	35	mg/kg	11.15.19 09:24	
Diesel Range Organics (DRO)	<50.3	1010	1040	103	1020	102	70-135	2	35	mg/kg	11.15.19 09:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		110		70-135	%	11.15.19 09:24
o-Terphenyl	109		112		70-135	%	11.15.19 09:24

Analytical Method: TPH by SW8015 Mod
Seq Number: 3107718
Parent Sample Id: 643273-001
Matrix: Soil
MS Sample Id: 643273-001 S
Prep Method: SW8015P
Date Prep: 11.15.19
MSD Sample Id: 643273-001 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)	<50.0	1000	992	99	970	97	70-135	2	35	mg/kg	11.15.19 18:39	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	11.15.19 18:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	134		119		70-135	%	11.15.19 18:39
o-Terphenyl	120		119		70-135	%	11.15.19 18:39

Analytical Method: TPH by SW8015 Mod
Seq Number: 3107743
Parent Sample Id: 643409-006
Matrix: Soil
MS Sample Id: 643409-006 S
Prep Method: SW8015P
Date Prep: 11.15.19
MSD Sample Id: 643409-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1120	112	963	96	70-135	15	35	mg/kg	11.16.19 03:05	
Diesel Range Organics (DRO)	614	1000	1140	53	1030	42	70-135	10	35	mg/kg	11.16.19 03:05	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		121		70-135	%	11.16.19 03:05
o-Terphenyl	133		123		70-135	%	11.16.19 03:05

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

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

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

QC Summary 643271

LT Environmental, Inc.

Remuda North 31 State 123 H

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3107730 | Matrix: Solid | Date Prep: 11.14.19
MB Sample Id: 7690416-1-BLK | LCS Sample Id: 7690416-1-BKS | LCSD Sample Id: 7690416-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0885	89	0.0895	90	70-130	1	35	mg/kg	11.15.19 08:52	
Toluene	<0.00100	0.100	0.0878	88	0.0888	89	70-130	1	35	mg/kg	11.15.19 08:52	
Ethylbenzene	<0.00100	0.100	0.0866	87	0.0878	88	71-129	1	35	mg/kg	11.15.19 08:52	
m,p-Xylenes	<0.00200	0.200	0.183	92	0.186	93	70-135	2	35	mg/kg	11.15.19 08:52	
o-Xylene	<0.00100	0.100	0.0935	94	0.0949	95	71-133	1	35	mg/kg	11.15.19 08:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		103		103		70-130	%	11.15.19 08:52
4-Bromofluorobenzene	108		115		114		70-130	%	11.15.19 08:52

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3107730 | Matrix: Soil | Date Prep: 11.14.19
Parent Sample Id: 643271-001 | MS Sample Id: 643271-001 S | MSD Sample Id: 643271-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0798	79	0.0805	81	70-130	1	35	mg/kg	11.15.19 09:30	
Toluene	<0.00101	0.101	0.0790	78	0.0798	81	70-130	1	35	mg/kg	11.15.19 09:30	
Ethylbenzene	<0.00101	0.101	0.0775	77	0.0785	79	71-129	1	35	mg/kg	11.15.19 09:30	
m,p-Xylenes	<0.00202	0.202	0.164	81	0.165	83	70-135	1	35	mg/kg	11.15.19 09:30	
o-Xylene	<0.00101	0.101	0.0831	82	0.0843	85	71-133	1	35	mg/kg	11.15.19 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		70-130	%	11.15.19 09:30
4-Bromofluorobenzene	119		122		70-130	%	11.15.19 09:30

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

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: 413271

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

Work Order Comments

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

Project Name:	Remuda North 31 State 123H	Turn Around	
Project Number:	12919037	Routine	☐
P.O. Number:	Eddy County	Rush:	3day
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.0	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	3

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	11/14/19	14:28	2'	1	x	x	x
PH02			14:37		1	x	x	x
PH03			14:43		1	x	x	x

Work Order Notes

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

Sample Comments

discrete

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/14/19 16:44			
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/14/2019 04:44:00 PM

Work Order #: 643271

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 11/14/2019

Checklist reviewed by: Jessica Kramer Date: 11/15/2019

Jessica Kramer