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	NAB1919939309
District RP	2RP-5535
Facility ID	
Application ID	pAB1919935029

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)* NAB1919939309
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.136253° Longitude -103.988740°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Corral Canyon Federal #212H	Site Type Production Well Facility
Date Release Discovered 5/27/2019	API# *(if applicable)* 30-015-45427

Unit Letter	Section	Township	Range	County
B	16	25S	29E	Eddy

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Treated Fresh Water	Volume/Weight Released (provide units) 51.73 bbls w 2 Biocide (0.00259 bbls each), 0.00517 bbls Scale Inh	Volume/Weight Recovered (provide units) 51.73 bbls w 2 Biocide (0.00259 bbls each), 0.00517 bbls Scale Inh

Cause of Release

Contract operator running transfer pump neglected to monitor fluid transfer resulting in the frac tanks overflowing into lined containment and onto the well pad. A vacuum truck recovered free fluid. Additional third party resources have been retained to assist with remediation. Remediation can begin when completions activities are completed on the well pad.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1919939309
District RP	2RP-5535
Facility ID	
Application ID	pAB1919935029

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
☐ Yes ☒ No** **Yes AB	19.15.29.7 DEFINITIONS: A. "Major release" means: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more; N/A ** "fluid release at the referenced facility of an amount equal to or greater than 25 barrels that occurred early this morning." AB

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A **Yes. "From: Ruth, Amy Via e-mail Sent: Monday, May 27, 2019 3:56 PM"
"To: Mike Bratcher; Rob Hamlet; Victoria Venegas; 'Griswold, Jim, EMNRD'; Ryan Mann Cc: Clark, Gary; McSpadden, Wes; Littrell, Kyle; Adrian Baker; Foust, Bryan
AB

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: Amy C. Ruth Title: SH&E Coordinator
Signature: Date: 6/7/2019
email: Amy_Ruth@xtoenergy.com Telephone: 575-689-3380

OCD Only

Received by: Amalia Bustamante Date: 7/18/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

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

Printed Name: _____Kyle Littrell_____ Title: ____SH&E Supervisor_____

Signature:_____ Date: __08/23/2019_____

email: _____Kyle_Littrell@xtoenergy.com_____ Telephone: ___432-221-7331_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

Closure

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

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

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

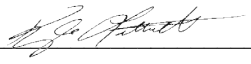
☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 08/23/2019

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 103
Midland, Texas 79705
432.704.5178

August 23, 2019

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

RE: Closure Request
Corral Canyon Federal #212H
Remediation Permit Number 2RP-5535
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment and soil sampling activities at the Corral Canyon Federal #212H (Site) in Unit B, Section 16, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of soil impacts following a release of fresh water treated with low concentrations of biocide and scale inhibitor at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Report and requesting no further action for Remediation Permit (RP) Number 2RP-5535.

RELEASE BACKGROUND

On May 27, 2019, a contract operator neglected to properly monitor fluid transfer at the Site, which resulted in the tanks overflowing. Approximately 51.73 bbls of fresh water treated with low concentrations of biocide and scale inhibitor were released into lined containment and onto the caliche well pad. A vacuum truck was dispatched to the Site to recover free-standing fluid; all free-standing fluid was recovered. XTO removed the temporary containment once fluid was recovered. 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 June 7, 2019, and was assigned Remediation Permit (RP) Number 2RP-5535 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 50 and 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is United States Geological Survey (USGS) well 320739103584201, located approximately 4,386

feet southeast of the Site, with a depth to groundwater of 140 feet bgs and a total depth of 192 feet bgs. The nearest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 518 feet east-northeast 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 within 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 June 7, 2019, LTE personnel was at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected one preliminary soil sample (SS01) within the release extent from a depth of approximately 0.5 feet bgs to assess for soil impacts. Soil was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach© chloride QuanTab© test strips, respectively. The release extent and preliminary soil sample location were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The soil sample was 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 sample was shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

Based on laboratory analytical results for preliminary soil sample SS01, excavation activities were not warranted; however, additional assessment activities were scheduled. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

On August 13, 2019, LTE personnel returned to the Site to oversee soil assessment activities to further confirm the presence or absence of impacted soil. Potholes were advanced via a track hoe at three locations within the release extent. Potholes PH01 through PH03 were advanced to a depth of 4 feet bgs. Delineation soil samples were collected from each pothole at depths of 2 feet and 4 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach© chloride QuanTab© test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Midland, Texas. All potholes were backfilled with the soil removed. The potholes and delineation soil sample locations are depicted on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil sample SS01 collected at approximately 0.5 feet bgs. Laboratory analytical results indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in delineation soil samples PH01 through PH03 collected at 2 feet bgs and PH01A through PH03A collected at 4 feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 4.

CONCLUSIONS

Preliminary soil sample SS01 and delineation soil samples PH01/PH01A through PH03/PH03A were collected from within the release extent from depths ranging from 0.5 feet to 4 feet bgs to assess for the presence or absence of soil impacts as a result of the May 27, 2019, release. Laboratory analytical results for all soil samples indicated benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, field screening of soil indicated 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 and recovery of released fluids, 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 fresh water release. XTO requests no further action for RP Number 2RP-5535. An updated Form C-141 is included as Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, United States Bureau of Land Management
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary and Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5535)
Attachment 2	Photographic Log
Attachment 3	Lithologic / Soil Sample Logs
Attachment 4	Laboratory Analytical Reports

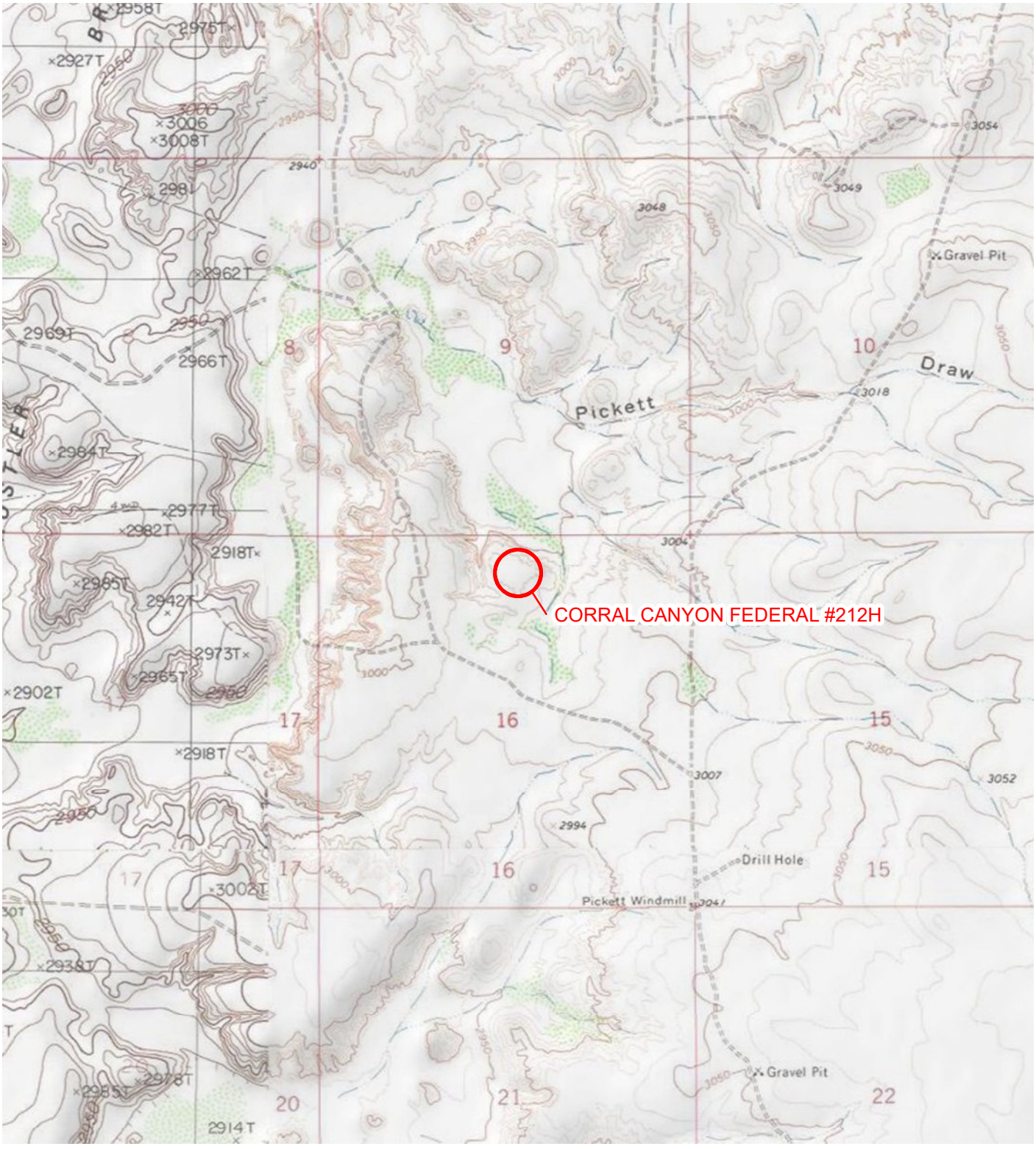


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

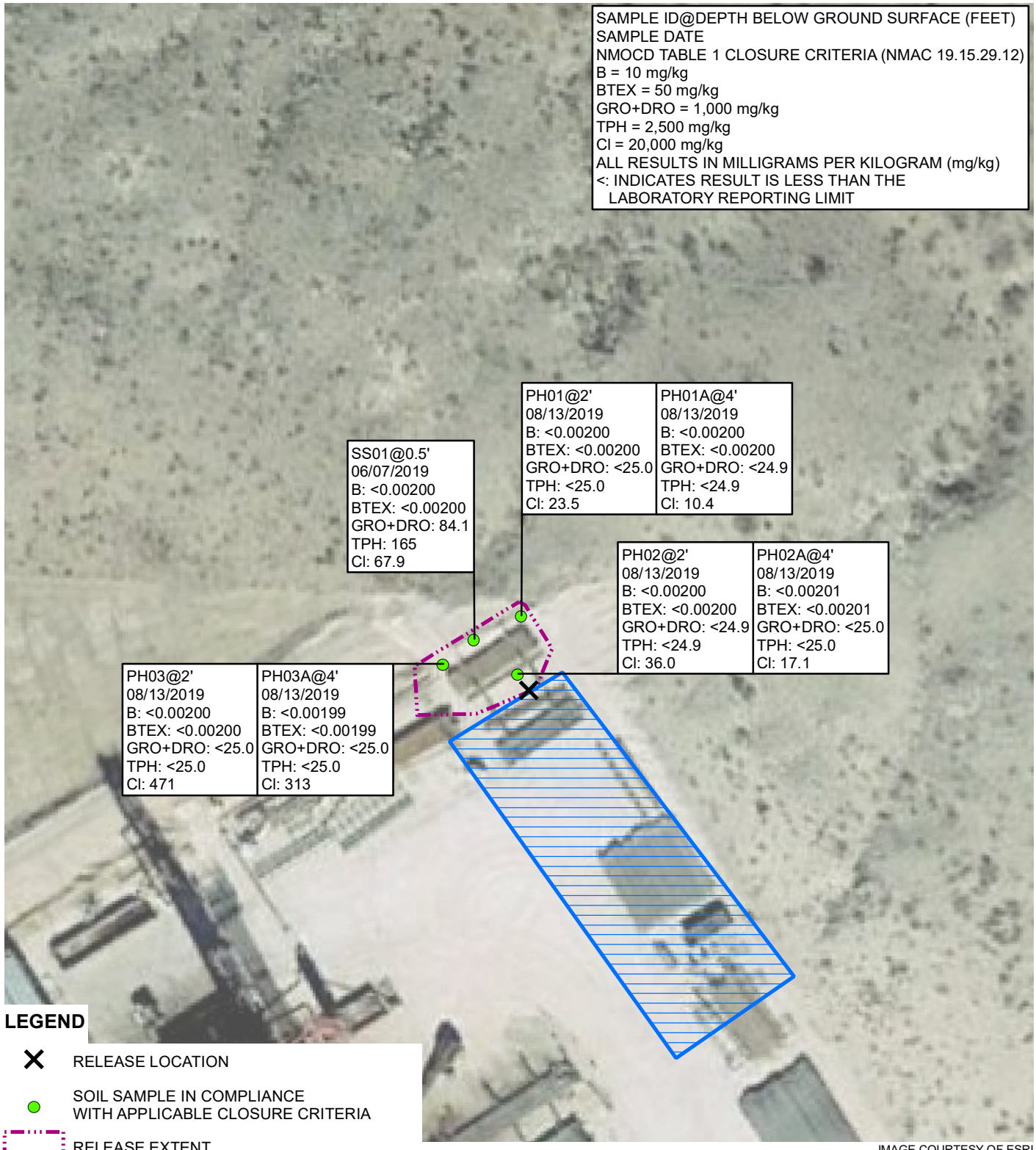
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-5535

FIGURE 1
SITE LOCATION MAP
CORRAL CANYON FEDERAL #212H
UNIT B SEC 16 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919106_CORRAL CANYON FEDERAL#212H\012919106_FIG01_SL_5535.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-5535

FIGURE 2
PRELIMINARY AND DELINEATION
SOIL SAMPLE LOCATIONS
CORRAL CANYON FEDERAL #212H
UNIT B SEC 16 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918108_SEVERUS 31 FED COM #4H\012919106_FIG02_PRELIMINARY_5535_1.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

CORAL CANYON FEDERAL #212H
REMEDIATION PERMIT NUMBER 2RP-5535
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	06/07/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	84.1	<15.0	84.1	165	67.9
PH01	2	08/13/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	23.5
PH01A	4	08/13/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	10.4
PH02	2	08/13/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.9	<24.9	<24.9	<24.9	<24.9	36.0
PH02A	4	08/13/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<25.0	<25.0	<25.0	<25.0	<25.0	17.1
PH03	2	08/13/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<25.0	<25.0	<25.0	<25.0	<25.0	471
PH03A	4	08/13/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<25.0	<25.0	<25.0	<25.0	<25.0	313
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
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
mg/kg - milligrams per kilogram
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
NE - not established
TPH - total petroleum hydrocarbons

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5535)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
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District III
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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Incident ID	NAB1919939309
District RP	2RP-5535
Facility ID	
Application ID	pAB1919935029

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)* NAB1919939309
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.136253° Longitude -103.988740°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Corral Canyon Federal #212H	Site Type Production Well Facility
Date Release Discovered 5/27/2019	API# *(if applicable)* 30-015-45427

Unit Letter	Section	Township	Range	County
B	16	25S	29E	Eddy

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Treated Fresh Water	Volume/Weight Released (provide units) 51.73 bbls w 2 Biocide (0.00259 bbls each), 0.00517 bbls Scale Inh	Volume/Weight Recovered (provide units) 51.73 bbls w 2 Biocide (0.00259 bbls each), 0.00517 bbls Scale Inh

Cause of Release

Contract operator running transfer pump neglected to monitor fluid transfer resulting in the frac tanks overflowing into lined containment and onto the well pad. A vacuum truck recovered free fluid. Additional third party resources have been retained to assist with remediation. Remediation can begin when completions activities are completed on the well pad.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1919939309
District RP	2RP-5535
Facility ID	
Application ID	pAB1919935029

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
☐ Yes ☒ No** **Yes AB	19.15.29.7 DEFINITIONS: A. "Major release" means: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more; N/A ** "fluid release at the referenced facility of an amount equal to or greater than 25 barrels that occurred early this morning." AB

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A **Yes. "From: Ruth, Amy Via e-mail Sent: Monday, May 27, 2019 3:56 PM"
"To: Mike Bratcher; Rob Hamlet; Victoria Venegas; 'Griswold, Jim, EMNRD'; Ryan Mann Cc: Clark, Gary; McSpadden, Wes; Littrell, Kyle; Adrian Baker; Foust, Bryan
AB

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: Amy C. Ruth Title: SH&E Coordinator
Signature: Date: 6/7/2019
email: Amy_Ruth@xtoenergy.com Telephone: 575-689-3380

OCD Only

Received by: Amalia Bustamante Date: 7/18/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

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

Printed Name: _____Kyle Littrell_____ Title: ____SH&E Supervisor_____

Signature:_____ Date: __08/23/2019_____

email: _____Kyle_Littrell@xtoenergy.com_____ Telephone: ___432-221-7331_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5535
Facility ID	
Application ID	

Closure

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

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

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

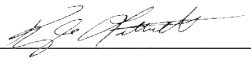
☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 08/23/2019

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: _____

Eastern view of release extent during preliminary soil sampling and site assessment.

Project: 012919106	XTO Energy, Inc. Corral Canyon Federal #212H	LTE Advancing Opportunity
June 7, 2019	Photographic Log	

Southwestern view of release extent during preliminary soil sampling and site assessment.

Project: 012919106	XTO Energy, Inc. Corral Canyon Federal #212H	LTE Advancing Opportunity
June 7, 2019	Photographic Log	

ATTACHMENT 3: LITHOLOGIC SOIL SAMPLE LOGS

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

Compliance · Engineering · Remediation

Identifier:	Date:
P1to1	08/13/2019
Project Name:	**RP Number:**
Corral Canyon 212H	2RP-5535
Logged By:	**Method:**
L. Lombard	Backhoe
Hole Diameter:	**Total Depth:**
2'	4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat Long: 32.1363604, -103.988746
Field Screening: PID, chlorides
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	<128	10.1	N	P1to1	2			CALICHE, Nodor
dry	<128	8.2	N	P1to1A	4		SP	SAND, fine grained, smooth, Nodor
								deepest depth

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

Identifier:	Date:
PH02	08/13/2019
Project Name:	**RP Number:**
Corral Canyon 212H	2RP 5535
Logged By: L. Lambert	**Method:** trackhoe
Lat/Long: 32.1363036, -103.9887506	**Field Screening:** PID, chlorides
Hole Diameter: 2'	**Total Depth:** 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			0.5' CALICHE
dry	428	10.4	N	PH02	2		SM/SW	SAND, silt, pink lime, nodular
					3			
dry	172	7.4	N	PH02A	4		SP	SAND, pink lime
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Identifier:	Date:
P/H-3	08/13/2019
Project Name:	**RP Number:**
Corral Canyon 21 21 H	2RP 5535
Logged By: L. Lambuth	**Method:** truckhee
Hole Diameter: 2'	**Total Depth:** 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.136313, -103.988835
Field Screening: PID, chlorides
Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			~ 0.5' CALICHE
					1			
dry	338	4.1	N	P/H-3	2		SP	SAND, Pinkish, Moda
					3			
dry	338	6.4	N	P/H-3A	4		SP	SAND
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

Analytical Report 627202

for

LT Environmental, Inc.

Project Manager: Dan Moir

Coral Canyon Fed 212H

012919106

18-JUN-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

18-JUN-19

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

Reference: XENCO Report No(s): **627202**
Coral Canyon Fed 212H
Project Address: Delaware Basin

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 627202. 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. 627202 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 627202

LT Environmental, Inc., Arvada, CO

Coral Canyon Fed 212H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	06-07-19 12:45	0.5 ft	627202-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092686 BTEX by EPA 8021B

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

Certificate of Analysis Summary 627202

LT Environmental, Inc., Arvada, CO

Project Name: Coral Canyon Fed 212H

Project Id: 012919106
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Tue Jun-11-19 11:20 am
Report Date: 18-JUN-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	627202-001					
	Field Id:	SS01					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Jun-07-19 12:45					
BTEX by EPA 8021B	***Extracted:***	Jun-14-19 10:00					
	Analyzed:	Jun-15-19 08:52					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00401	0.00401				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Jun-12-19 16:40					
	Analyzed:	Jun-12-19 21:09					
	Units/RL:	mg/kg	RL				
Chloride		67.9	5.03				
TPH by SW8015 Mod	***Extracted:***	Jun-12-19 14:00					
	Analyzed:	Jun-13-19 04:26					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0				
Diesel Range Organics (DRO)		84.1	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0				
Total TPH		165	15.0				
Total GRO-DRO		84.1	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 627202

LT Environmental, Inc., Arvada, CO

Coral Canyon Fed 212H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627202-001	Date Collected:	06.07.19 12.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	06.12.19 16.40	Basis:	Wet Weight
Seq Number:	3092095				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**67.9**	5.03	mg/kg	06.12.19 21.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.12.19 14.00	Basis:	Wet Weight
Seq Number:	3092131				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.13.19 04.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**84.1**	15.0	mg/kg	06.13.19 04.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.13.19 04.26	U	1
Total TPH	PHC635	**165**	15.0	mg/kg	06.13.19 04.26		1
Total GRO-DRO	PHC628	**84.1**	15.0	mg/kg	06.13.19 04.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.13.19 04.26	
o-Terphenyl	84-15-1	75	%	70-135	06.13.19 04.26	

Certificate of Analytical Results 627202

LT Environmental, Inc., Arvada, CO

Coral Canyon Fed 212H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	06.11.19 11.20
Lab Sample Id:	627202-001	Date Collected:	06.07.19 12.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.14.19 10.00	Basis:	Wet Weight
Seq Number:	3092686				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.15.19 08.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.15.19 08.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	06.15.19 08.52	
1,4-Difluorobenzene	540-36-3	111	%	70-130	06.15.19 08.52	

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 627202

LT Environmental, Inc.

Coral Canyon Fed 212H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092095 Matrix: Solid Date Prep: 06.12.19
MB Sample Id: 7679764-1-BLK LCS Sample Id: 7679764-1-BKS LCSD Sample Id: 7679764-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	232	93	231	92	90-110	0	20	mg/kg	06.12.19 19:17	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092095 Matrix: Soil Date Prep: 06.12.19
Parent Sample Id: 627201-007 MS Sample Id: 627201-007 S MSD Sample Id: 627201-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	153	252	399	98	401	98	90-110	1	20	mg/kg	06.12.19 19:34	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092095 Matrix: Soil Date Prep: 06.12.19
Parent Sample Id: 627202-001 MS Sample Id: 627202-001 S MSD Sample Id: 627202-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	67.9	252	325	102	326	102	90-110	0	20	mg/kg	06.12.19 21:15	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3092131 Matrix: Solid Date Prep: 06.12.19
MB Sample Id: 7679805-1-BLK LCS Sample Id: 7679805-1-BKS LCSD Sample Id: 7679805-1-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	1050	105	1020	102	70-135	3	20	mg/kg	06.12.19 23:04	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1020	102	70-135	2	20	mg/kg	06.12.19 23:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		98		97		70-135	%	06.12.19 23:04
o-Terphenyl	85		87		90		70-135	%	06.12.19 23:04

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

QC Summary 627202

LT Environmental, Inc.

Coral Canyon Fed 212H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3092131 Matrix: Soil Date Prep: 06.12.19
Parent Sample Id: 627201-001 MS Sample Id: 627201-001 S MSD Sample Id: 627201-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.2	999	940	93	1050	104	70-135	11	20	mg/kg	06.13.19 00:18	
Diesel Range Organics (DRO)	<8.12	999	889	89	996	100	70-135	11	20	mg/kg	06.13.19 00:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		105		70-135	%	06.13.19 00:18
o-Terphenyl	83		87		70-135	%	06.13.19 00:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3092686 Matrix: Solid Date Prep: 06.14.19
MB Sample Id: 7680032-1-BLK LCS Sample Id: 7680032-1-BKS LCSD Sample Id: 7680032-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0880	88	0.0894	90	70-130	2	35	mg/kg	06.15.19 04:26	
Toluene	<0.00201	0.100	0.0798	80	0.0808	81	70-130	1	35	mg/kg	06.15.19 04:26	
Ethylbenzene	<0.00201	0.100	0.0900	90	0.0913	92	70-130	1	35	mg/kg	06.15.19 04:26	
m,p-Xylenes	<0.00402	0.201	0.181	90	0.183	92	70-130	1	35	mg/kg	06.15.19 04:26	
o-Xylene	<0.00201	0.100	0.0867	87	0.0878	88	70-130	1	35	mg/kg	06.15.19 04:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		109		70-130	%	06.15.19 04:26
4-Bromofluorobenzene	73		86		86		70-130	%	06.15.19 04:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3092686 Matrix: Soil Date Prep: 06.14.19
Parent Sample Id: 627201-001 MS Sample Id: 627201-001 S MSD Sample Id: 627201-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0923	91	0.0869	87	70-130	6	35	mg/kg	06.15.19 05:00	
Toluene	<0.00201	0.101	0.0835	83	0.0781	78	70-130	7	35	mg/kg	06.15.19 05:00	
Ethylbenzene	<0.00201	0.101	0.0943	93	0.0886	89	70-130	6	35	mg/kg	06.15.19 05:00	
m,p-Xylenes	<0.00402	0.201	0.190	95	0.179	90	70-130	6	35	mg/kg	06.15.19 05:00	
o-Xylene	<0.00201	0.101	0.0911	90	0.0863	86	70-130	5	35	mg/kg	06.15.19 05:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		109		70-130	%	06.15.19 05:00
4-Bromofluorobenzene	89		88		70-130	%	06.15.19 05:00

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

Chain of Custody

Work Order No: 627202

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:	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:		llaumbach@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:	Coral Canyon Fed 212H	Turn Around	
Project Number:	012919106	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.4 / 0.4	Thermometer ID	IR2	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	+0.2	
Sample Custody Seals:	Yes ~~No~~ N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	06/07/2019	12:45	0.5'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			6/10/19 @ 0830	2		6/11/19 1120
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/11/2019 11:20:00 AM

Work Order #: 627202

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 06/11/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/11/2019
Jessica Kramer

Analytical Report 633926

for

LT Environmental, Inc.

Project Manager: Dan Moir

Corral Canyon 212H

012919137

20-AUG-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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

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

20-AUG-19

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

Reference: XENCO Report No(s): **633926**
Corral Canyon 212H
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) 633926. 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. 633926 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 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	08-13-19 11:10	2 ft	633926-001
PH01A	S	08-13-19 11:20	4 ft	633926-002
PH02	S	08-13-19 11:30	2 ft	633926-003
PH02A	S	08-13-19 11:40	4 ft	633926-004
PH03	S	08-13-19 11:50	2 ft	633926-005
PH03A	S	08-13-19 12:00	4 ft	633926-006

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3098935 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 633926-002.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 633926

LT Environmental, Inc., Arvada, CO

Project Name: Corral Canyon 212H

Project Id: 012919137
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Aug-13-19 03:15 pm
Report Date: 20-AUG-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	633926-001		633926-002		633926-003		633926-004		633926-005		633926-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	2- ft		4- ft		2- ft		4- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-13-19 11:10		Aug-13-19 11:20		Aug-13-19 11:30		Aug-13-19 11:40		Aug-13-19 11:50		Aug-13-19 12:00	
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Aug-15-19 16:30		Aug-15-19 16:30		Aug-15-19 16:30		Aug-15-19 16:30		Aug-15-19 16:30		Aug-15-19 16:30	
	Analyzed:	Aug-16-19 09:03		Aug-16-19 09:23		Aug-16-19 09:43		Aug-16-19 10:03		Aug-16-19 10:23		Aug-16-19 10:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00400	0.00400	<0.00400	0.00400	<0.00402	0.00402	<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Aug-14-19 12:30		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00	
	Analyzed:	Aug-14-19 20:43		Aug-15-19 09:09		Aug-15-19 10:37		Aug-15-19 10:56		Aug-15-19 11:03		Aug-15-19 11:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.5	5.05	10.4	5.04	36.0	4.96	17.1	4.98	471	4.99	313	5.01
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 15:00		Aug-14-19 16:37	
	Analyzed:	Aug-15-19 02:18		Aug-15-19 02:38		Aug-15-19 02:57		Aug-15-19 03:16		Aug-15-19 03:36		Aug-15-19 06:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<25.0	25.0	<24.9	24.9	<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0
Diesel Range Organics (DRO)		<25.0	25.0	<24.9	24.9	<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0	25.0	<24.9	24.9	<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0
Total TPH		<25.0	25.0	<24.9	24.9	<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0
Total GRO-DRO		<25.0	25.0	<24.9	24.9	<24.9	24.9	<25.0	25.0	<25.0	25.0	<25.0	25.0

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-001	Date Collected:	08.13.19 11.10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 12.30	Basis:	Wet Weight
Seq Number:	3098611			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.5**	5.05	mg/kg	08.14.19 20.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 02.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 02.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 02.18	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 02.18	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 02.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.15.19 02.18	
o-Terphenyl	84-15-1	93	%	70-135	08.15.19 02.18	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-001	Date Collected:	08.13.19 11.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.16.19 09.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.16.19 09.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	74	%	70-130	08.16.19 09.03	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.16.19 09.03	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-002	Date Collected:	08.13.19 11.20	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098649			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.4**	5.04	mg/kg	08.15.19 09.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.15.19 02.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.15.19 02.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.15.19 02.38	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.15.19 02.38	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.15.19 02.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.15.19 02.38	
o-Terphenyl	84-15-1	96	%	70-135	08.15.19 02.38	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-002	Date Collected:	08.13.19 11.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.16.19 09.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.16.19 09.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.16.19 09.23	
4-Bromofluorobenzene	460-00-4	134	%	70-130	08.16.19 09.23	**

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-003	Date Collected:	08.13.19 11.30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098649			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.0**	4.96	mg/kg	08.15.19 10.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	08.15.19 02.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	08.15.19 02.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.15.19 02.57	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.15.19 02.57	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	08.15.19 02.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.15.19 02.57	
o-Terphenyl	84-15-1	97	%	70-135	08.15.19 02.57	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-003	Date Collected:	08.13.19 11.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.16.19 09.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.16.19 09.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	08.16.19 09.43	
4-Bromofluorobenzene	460-00-4	82	%	70-130	08.16.19 09.43	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-004	Date Collected:	08.13.19 11.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098649			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.1**	4.98	mg/kg	08.15.19 10.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 03.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 03.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 03.16	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 03.16	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 03.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.15.19 03.16	
o-Terphenyl	84-15-1	98	%	70-135	08.15.19 03.16	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-004	Date Collected:	08.13.19 11.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.20.19 01.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.20.19 01.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.16.19 10.03	
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.16.19 10.03	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-005	Date Collected:	08.13.19 11.50	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098649			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**471**	4.99	mg/kg	08.15.19 11.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098650			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 03.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 03.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 03.36	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 03.36	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 03.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.15.19 03.36	
o-Terphenyl	84-15-1	94	%	70-135	08.15.19 03.36	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-005	Date Collected:	08.13.19 11.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.16.19 10.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.16.19 10.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	08.16.19 10.23	
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.16.19 10.23	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-006	Date Collected:	08.13.19 12.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	08.14.19 15.00	Basis:	Wet Weight
Seq Number:	3098649			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**313**	5.01	mg/kg	08.15.19 11.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.14.19 16.37	Basis:	Wet Weight
Seq Number:	3098669			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	08.15.19 06.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	08.15.19 06.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.15.19 06.08	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.15.19 06.08	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	08.15.19 06.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.15.19 06.08	
o-Terphenyl	84-15-1	99	%	70-135	08.15.19 06.08	

Certificate of Analytical Results 633926

LT Environmental, Inc., Arvada, CO

Corral Canyon 212H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	08.13.19 15.15
Lab Sample Id:	633926-006	Date Collected:	08.13.19 12.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	AMB	Date Prep:	08.15.19 16.30	Basis:	Wet Weight
Seq Number:	3098935			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.16.19 10.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.16.19 10.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.16.19 10.44	
4-Bromofluorobenzene	460-00-4	120	%	70-130	08.16.19 10.44	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 633926

LT Environmental, Inc.

Corral Canyon 212H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684214-1-BLK LCS Sample Id: 7684214-1-BKS LCSD Sample Id: 7684214-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	265	106	90-110	0	20	mg/kg	08.14.19 17:40	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098649 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684228-1-BLK LCS Sample Id: 7684228-1-BKS LCSD Sample Id: 7684228-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	259	104	90-110	0	20	mg/kg	08.15.19 08:56	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633904-005 MS Sample Id: 633904-005 S MSD Sample Id: 633904-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.2	250	323	119	322	119	90-110	0	20	mg/kg	08.14.19 19:27	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098611 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633969-003 MS Sample Id: 633969-003 S MSD Sample Id: 633969-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	875	250	1110	94	1110	94	90-110	0	20	mg/kg	08.14.19 17:59	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098649 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633926-002 MS Sample Id: 633926-002 S MSD Sample Id: 633926-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.4	252	274	105	274	105	90-110	0	20	mg/kg	08.15.19 09:15	

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

QC Summary 633926

LT Environmental, Inc.

Corral Canyon 212H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3098649 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633926-003 MS Sample Id: 633926-003 S MSD Sample Id: 633926-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	36.0	248	309	110	309	110	90-110	0	20	mg/kg	08.15.19 10:44	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098650 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684239-1-BLK LCS Sample Id: 7684239-1-BKS LCSD Sample Id: 7684239-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1060	106	1050	105	70-135	1	20	mg/kg	08.14.19 21:09	
Diesel Range Organics (DRO)	<25.0	1000	995	100	994	99	70-135	0	20	mg/kg	08.14.19 21:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		117		116		70-135	%	08.14.19 21:09
o-Terphenyl	99		104		103		70-135	%	08.14.19 21:09

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098669 Matrix: Solid Date Prep: 08.14.19
MB Sample Id: 7684246-1-BLK LCS Sample Id: 7684246-1-BKS LCSD Sample Id: 7684246-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1050	105	1060	106	70-135	1	20	mg/kg	08.14.19 23:08	
Diesel Range Organics (DRO)	<25.0	1000	1060	106	1050	105	70-135	1	20	mg/kg	08.14.19 23:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		109		110		70-135	%	08.14.19 23:08
o-Terphenyl	110		110		106		70-135	%	08.14.19 23:08

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098650 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633957-001 MS Sample Id: 633957-001 S MSD Sample Id: 633957-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	987	99	979	98	70-135	1	20	mg/kg	08.14.19 22:07	
Diesel Range Organics (DRO)	36.3	999	981	95	975	94	70-135	1	20	mg/kg	08.14.19 22:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		109		70-135	%	08.14.19 22:07
o-Terphenyl	92		93		70-135	%	08.14.19 22:07

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 633926

LT Environmental, Inc.

Corral Canyon 212H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3098669 Matrix: Soil Date Prep: 08.14.19
Parent Sample Id: 633904-001 MS Sample Id: 633904-001 S MSD Sample Id: 633904-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	860	86	1010	101	70-135	16	20	mg/kg	08.15.19 00:11	
Diesel Range Organics (DRO)	<25.0	999	850	85	1010	101	70-135	17	20	mg/kg	08.15.19 00:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		106		70-135	%	08.15.19 00:11
o-Terphenyl	88		103		70-135	%	08.15.19 00:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3098935 Matrix: Solid Date Prep: 08.15.19
MB Sample Id: 7684339-1-BLK LCS Sample Id: 7684339-1-BKS LCSD Sample Id: 7684339-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0947	95	0.0968	97	70-130	2	35	mg/kg	08.16.19 06:23	
Toluene	<0.00200	0.100	0.0934	93	0.0954	95	70-130	2	35	mg/kg	08.16.19 06:23	
Ethylbenzene	<0.00200	0.100	0.108	108	0.110	110	70-130	2	35	mg/kg	08.16.19 06:23	
m,p-Xylenes	<0.00400	0.200	0.221	111	0.226	113	70-130	2	35	mg/kg	08.16.19 06:23	
o-Xylene	<0.00200	0.100	0.105	105	0.111	111	70-130	6	35	mg/kg	08.16.19 06:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		94		95		70-130	%	08.16.19 06:23
4-Bromofluorobenzene	112		116		125		70-130	%	08.16.19 06:23

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3098935 Matrix: Soil Date Prep: 08.15.19
Parent Sample Id: 634179-001 MS Sample Id: 634179-001 S MSD Sample Id: 634179-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0650	65	0.0567	57	70-130	14	35	mg/kg	08.16.19 07:03	X
Toluene	<0.00200	0.0998	0.0629	63	0.0516	52	70-130	20	35	mg/kg	08.16.19 07:03	X
Ethylbenzene	<0.00200	0.0998	0.0689	69	0.0529	53	70-130	26	35	mg/kg	08.16.19 07:03	X
m,p-Xylenes	<0.00399	0.200	0.140	70	0.105	53	70-130	29	35	mg/kg	08.16.19 07:03	X
o-Xylene	<0.00200	0.0998	0.0688	69	0.0518	52	70-130	28	35	mg/kg	08.16.19 07:03	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		93		70-130	%	08.16.19 07:03
4-Bromofluorobenzene	126		122		70-130	%	08.16.19 07:03

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: 633926

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)

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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:	llaumbach@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:	Corral Canyon 212H	Turn Around	
Project Number:	12919137	Routine	X
P.O. Number:	Eddy County- 2RP-5535	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.8	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:	4	

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
PH01	S	08/13/2019	11:10	2'	1	X	X	X	
PH01A	S		11:20	4'	1	X	X	X	
PH02	S		11:30	2'	1	X	X	X	
PH02A	S		11:40	4'	1	X	X	X	
PH03	S		11:50	2'	1	X	X	X	
PH03A	S		12:00	4'	1	X	X	X	

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		08/13/2019 15:15	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **46185**

Date/Time: 08/13/19 16:38
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
633926-001	S	PH01	08/13/19 11:10	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	
633926-001	S	PH01	08/13/19 11:10	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-001	S	PH01	08/13/19 11:10	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-002	S	PH01A	08/13/19 11:20	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	
633926-002	S	PH01A	08/13/19 11:20	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-002	S	PH01A	08/13/19 11:20	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-003	S	PH02	08/13/19 11:30	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	
633926-003	S	PH02	08/13/19 11:30	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-003	S	PH02	08/13/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-004	S	PH02A	08/13/19 11:40	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-004	S	PH02A	08/13/19 11:40	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-004	S	PH02A	08/13/19 11:40	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	
633926-005	S	PH03	08/13/19 11:50	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	
633926-005	S	PH03	08/13/19 11:50	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-005	S	PH03	08/13/19 11:50	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-006	S	PH03A	08/13/19 12:00	E300_CL	Chloride by EPA 300	08/19/19	02/09/20	JKR	CL	
633926-006	S	PH03A	08/13/19 12:00	SW8015MOD_NM	TPH by SW8015 Mod	08/19/19	08/27/19	JKR	GRO-DRO PHCC10C28 PI	
633926-006	S	PH03A	08/13/19 12:00	SW8021B	BTEX by EPA 8021B	08/19/19	08/27/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 08/13/2019

Received By: Brianna Teel

Date Received: 08/14/2019 10:53

Cooler Temperature: 2.1

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 46185

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

Sent By: Elizabeth McClellan **Date Sent:** 08/13/2019 04:38 PM

Received By: Brianna Teel **Date Received:** 08/14/2019 10:53 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 08/14/2019

Brianna Teel

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/13/2019 03:15:00 PM

Work Order #: 633926

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 08/13/2019

Checklist reviewed by: Jessica Kramer Date: 08/14/2019