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	NRM2007860939
District RP	
Facility ID	
Application ID	

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

Location of Release Source

Latitude 32.622056 Longitude -103.851442
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hackberry 34 CTB	Site Type Tank Battery
Date Release Discovered 02/29/2020	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	34	19S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 20	Volume Recovered (bbls) 20
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
A release of oil occurred due to overflow line being opened, oil then released out of an unsecured manway plate. Fluid was released into an impermeable containment. A vacuum truck recovered approximately 20 bbls of oil from the containment. A 48-hour advance notice of containment inspection was provided by email to NMOCD District 2. The containment was visually inspected and was determined to be insufficient. Delineation for deferral will be conducted by a third party contractor.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007860939
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

N/A

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

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

Printed Name: Adrian Baker Title: SH&E Coordinator

Signature: _____ Date: 3/13/20

email: Adrian_Baker @xtoenergy.com Telephone: 4322363808

OCD Only

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007860939
District RP	
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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007860939
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 05/08/2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007860939
District RP	
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: 05/08/2020

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

A proud member of WSP

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

May 8, 2020

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

RE: Closure Request
Hackberry 34 Central Tank Battery
Incident ID: NRM2007860939
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at the Hackberry 34 Central Tank Battery (Site) in Unit A, Section 34, Township 19 South, Range 31 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 impact to soil by a release of crude oil at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NRM2007860939.

RELEASE BACKGROUND

On February 29, 2020, an overflow line was opened, resulting in the release of 20 barrels (bbls) of crude oil into an impermeable containment. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids, of which approximately 20 bbls of crude oil were 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 March 13, 2020. A 48-hour advance notice of liner inspection was provided via email to NMOCD District 2 and, upon inspection, the liner was determined to be insufficient.

SITE CHARACTERIZATION

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

323803103510001, located approximately 0.85 miles north of the Site. The groundwater well has a reported depth to groundwater of 142 feet bgs, total well depth is not determined. There is one NMOSE well and four USGS wells within 1.5 miles with depth to water data that indicates regional depth to water is greater than 100 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash, located approximately 2.5 miles north 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 not underlain by unstable geology (low potential karst designation area). The Site receptors are depicted in Figure 1.

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 ACTIVITIES AND SOIL SAMPLING ACTIVITIES

On April 1, 2020, LTE evaluated the release based on information provided on the Form C-141 and visual observations. LTE personnel advanced a borehole via hand-auger at one location within the lined tank battery containment on the southwest corner of the tank battery, on the western edge of the caliche well pad. Site assessment activities and vertical delineation soil sampling was completed at the location of the tear in the liner found during the liner integrity inspection conducted by XTO. Three soil samples were collected at approximately 0.5 feet, 2 feet, and 4 feet bgs (BH01 through BH01B). Soil from the discrete borehole soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each sample were documented on a lithologic/soil sampling log and are included as Attachment 1. The borehole was backfilled with the soil removed and XTO repaired the liner. The borehole delineation soil sample location is depicted on Figure 2. Photographic documentation was conducted during the Site visit. The photographic log is included in Attachment 2.

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

ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples BH01 through BH01B, collected at depths of approximately 0.5 feet, 2 feet, and 4 feet bgs, respectively, indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical report is included as Attachment 3.

CLOSURE REQUEST

Following the failed liner integrity inspection, LTE personnel advanced one borehole in the location of the hole in the compromised liner. Delineation soil samples BH01 through BH01B were collected from within the lined tank battery containment from depths of approximately 0.5 feet, 2 feet, and 4 feet bgs to assess for the presence or absence of soil impacts as a result of the February 29, 2020 crude oil release. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples BH01 through BH01B. The liner was subsequently repaired. As such, XTO respectfully requests NFA for Incident Number NRM2007860939.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Kalei Jennings
Project Environmental Scientist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
United States Bureau of Land Management – New Mexico
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Log
Attachment 2	Lithologic/Soil Sampling Logs
Attachment 3	Laboratory Analytical Report

FIGURES

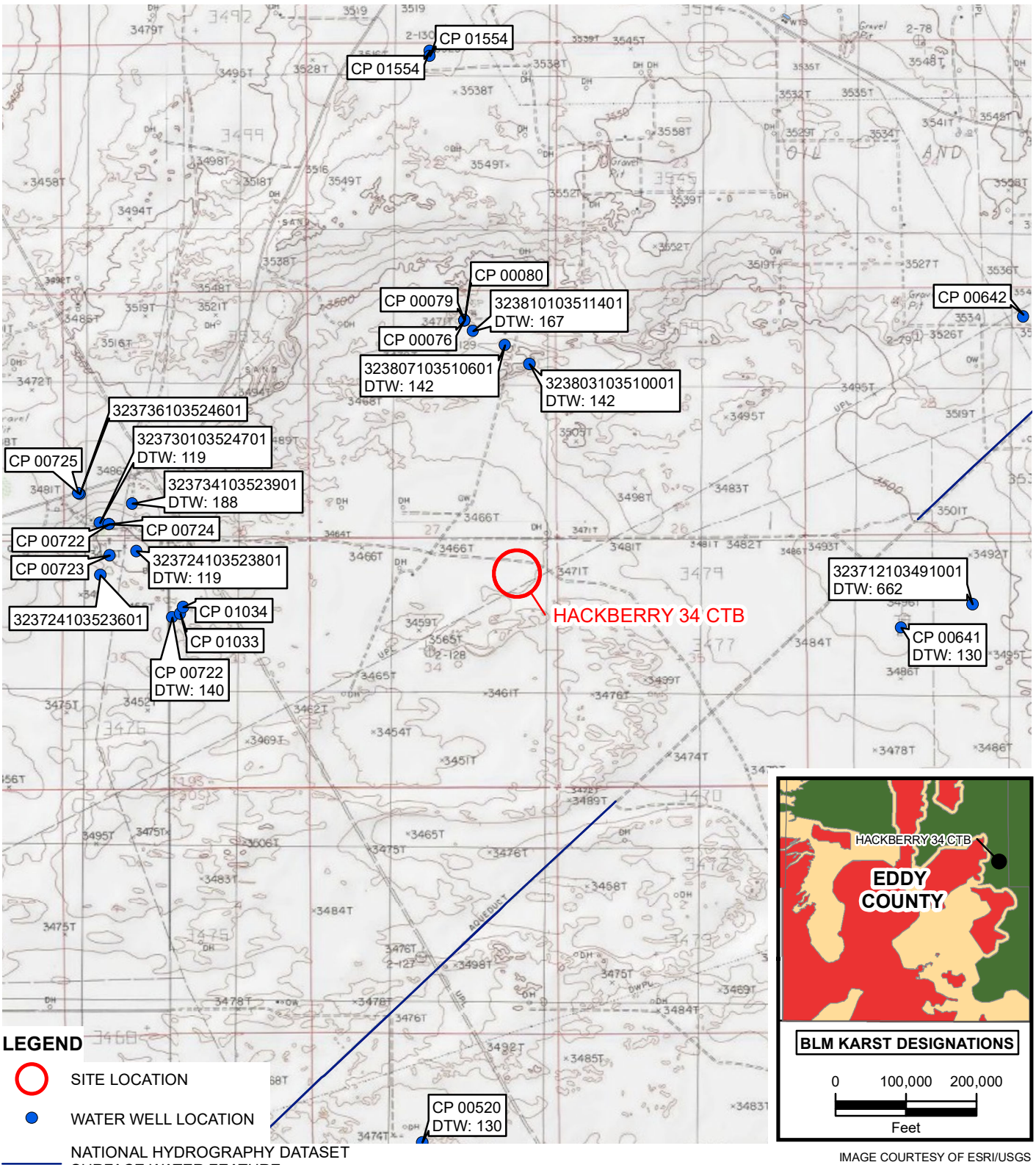

FIGURE 1
SITE LOCATION MAP
HACKBERRY 34 CTB
UNIT A SEC 34 T19S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920039_HACKBERRY 34 CTB\012920039_FIG01_SL_2020.mxd

LEGEND

IMAGE COURTESY OF ESRI

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

0 50 100
Feet

N

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

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
HACKBERRY 34 CENTRAL TANK BATTERY
UNIT A SEC 34 T19S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920039_HACKBERRY 34 CTB\012920039_FIG02_DELINEATION_2020.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

HACKBERRY 34 CENTRAL TANK BATTERY
INCIDENT NUMBER NRM2007860939
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
BH01	0.5	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	<9.98
BH01A	2	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	86.9
BH01B	4	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	29.1

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

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

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ATTACHMENT 1: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View of location of BH01.

Photograph 2: View of tank battery containment where release occurred.

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLING LOG

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

BH or PH Name: BH01	Date: 04/01/2020
Site Name: Hackberry 34 CTB	
RP or Incident Number:	
LTE Job Number:	
Logged By: Robert M.	Method: Hand Auger
Hole Diameter: 3"	Total Depth:
Lat/Long:	Field Screening: Chloride, PID

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<124	4.0	N		0.5'	0	S	CHCE / Brown Poorly graded Sand small round Grain
M	<124	3.4	N		1'	1	S	tan Brown SP-SC small round Grain dark Brown Grey
M	280	3.0	N		2'	2	S	Clayey Sand small round grain Poor grade tan-Brown
M	124	0.4	N		3'	3	S	CL trace Brown Sand small round grain Poor grade
M	124	0.1	N		4'	4	S	light Brown-tan mild plasticity tightly Packed
						5		
						6		CHCE White low consolidation
						7		
						8		
M	<124		N		8.5'	9		Sand trace Clay Brown grey
						10		
						11		Refusal
						12		

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 657619

for

LT Environmental, Inc.

Project Manager: Dan Moir

Hackberry 34 CTB

012920039

02-APR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

02-APR-20

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

Reference: XENCO Report No(s): **657619**
Hackberry 34 CTB
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 657619. 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. 657619 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 Manager

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

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

Sample Cross Reference 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	04-01-20 10:01	0.5 ft	657619-001
BH01A	S	04-01-20 10:08	2 ft	657619-002
BH01B	S	04-01-20 10:41	4 ft	657619-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hackberry 34 CTB

Project ID: *012920039*
Work Order Number(s): *657619*

Report Date: *02-APR-20*
Date Received: *04/01/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121693 BTEX by EPA 8021B

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

Certificate of Analysis Summary 657619

LT Environmental, Inc., Arvada, CO

Project Name: Hackberry 34 CTB

Project Id: 012920039
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Apr-01-20 03:35 pm
Report Date: 02-APR-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	657619-001		657619-002		657619-003			
	Field Id:	BH01		BH01A		BH01B			
	Depth:	0.5- ft		2- ft		4- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Apr-01-20 10:01		Apr-01-20 10:08		Apr-01-20 10:41			
BTEX by EPA 8021B	***Extracted:***	Apr-01-20 17:00		Apr-01-20 17:00		Apr-01-20 17:00			
	Analyzed:	Apr-01-20 21:18		Apr-01-20 21:39		Apr-01-20 21:59			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401		
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200		
Chloride by EPA 300	***Extracted:***	Apr-01-20 18:27		Apr-01-20 18:27		Apr-01-20 18:27			
	Analyzed:	Apr-01-20 19:02		Apr-01-20 19:18		Apr-01-20 19:24			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<9.98	9.98	86.9	9.96	29.1	9.98		
TPH by SW8015 Mod	***Extracted:***	Apr-02-20 09:00		Apr-02-20 09:00		Apr-02-20 09:00			
	Analyzed:	Apr-02-20 14:37		Apr-02-20 14:57		Apr-02-20 15:18			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.3	50.3	<50.2	50.2		
Diesel Range Organics (DRO)		<50.1	50.1	<50.3	50.3	<50.2	50.2		
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.3	50.3	<50.2	50.2		
Total GRO-DRO		<50.1	50.1	<50.3	50.3	<50.2	50.2		
Total TPH		<50.1	50.1	<50.3	50.3	<50.2	50.2		

Jessica Kramer
Project Manager

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-001	Date Collected:	04.01.20 10.01	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 18.27	Basis:	Wet Weight
Seq Number:	3121702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	04.01.20 19.02	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.02.20 09.00	Basis:	Wet Weight
Seq Number:	3121741				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.02.20 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.02.20 14.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.02.20 14.37	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.02.20 14.37	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.02.20 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.02.20 14.37	
o-Terphenyl	84-15-1	103	%	70-135	04.02.20 14.37	

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-001	Date Collected:	04.01.20 10.01	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 17.00	Basis:	Wet Weight
Seq Number:	3121693				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.01.20 21.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.01.20 21.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	04.01.20 21.18	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.01.20 21.18	

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-002	Date Collected:	04.01.20 10.08	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 18.27	Basis:	Wet Weight
Seq Number:	3121702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.9**	9.96	mg/kg	04.01.20 19.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.02.20 09.00	Basis:	Wet Weight
Seq Number:	3121741				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.02.20 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.02.20 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.02.20 14.57	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.02.20 14.57	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.02.20 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.02.20 14.57	
o-Terphenyl	84-15-1	110	%	70-135	04.02.20 14.57	

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-002	Date Collected:	04.01.20 10.08	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 17.00	Basis:	Wet Weight
Seq Number:	3121693				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.01.20 21.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.20 21.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.01.20 21.39	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.01.20 21.39	

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01B**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-003	Date Collected:	04.01.20 10.41	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 18.27	Basis:	Wet Weight
Seq Number:	3121702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.1**	9.98	mg/kg	04.01.20 19.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.02.20 09.00	Basis:	Wet Weight
Seq Number:	3121741				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.02.20 15.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.02.20 15.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.02.20 15.18	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.02.20 15.18	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.02.20 15.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.02.20 15.18	
o-Terphenyl	84-15-1	107	%	70-135	04.02.20 15.18	

Certificate of Analytical Results 657619

LT Environmental, Inc., Arvada, CO

Hackberry 34 CTB

Sample Id:	**BH01B**	Matrix:	Soil	Date Received:	04.01.20 15.35
Lab Sample Id:	657619-003	Date Collected:	04.01.20 10.41	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.01.20 17.00	Basis:	Wet Weight
Seq Number:	3121693				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.01.20 21.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.01.20 21.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.01.20 21.59	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.01.20 21.59	

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 657619

LT Environmental, Inc.

Hackberry 34 CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3121702 Matrix: Solid Date Prep: 04.01.20
MB Sample Id: 7700327-1-BLK LCS Sample Id: 7700327-1-BKS LCSD Sample Id: 7700327-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	267	107	268	107	90-110	0	20	mg/kg	04.01.20 18:50	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3121702 Matrix: Soil Date Prep: 04.01.20
Parent Sample Id: 657619-001 MS Sample Id: 657619-001 S MSD Sample Id: 657619-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	217	109	218	109	90-110	0	20	mg/kg	04.01.20 19:07	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3121702 Matrix: Soil Date Prep: 04.01.20
Parent Sample Id: 657636-007 MS Sample Id: 657636-007 S MSD Sample Id: 657636-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	371	199	580	105	592	112	90-110	2	20	mg/kg	04.01.20 20:25	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121741 Matrix: Solid Date Prep: 04.02.20
MB Sample Id: 7700357-1-BLK LCS Sample Id: 7700357-1-BKS LCSD Sample Id: 7700357-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	990	99	890	89	70-135	11	35	mg/kg	04.02.20 09:28	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1020	102	70-135	12	35	mg/kg	04.02.20 09:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		124		107		70-135	%	04.02.20 09:28
o-Terphenyl	109		121		106		70-135	%	04.02.20 09:28

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121741 Matrix: Solid Date Prep: 04.02.20
MB Sample Id: 7700357-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.02.20 09:07	

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

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

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

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

QC Summary 657619

LT Environmental, Inc.

Hackberry 34 CTB

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121741 Matrix: Soil Date Prep: 04.02.20
Parent Sample Id: 657638-007 MS Sample Id: 657638-007 S MSD Sample Id: 657638-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	995	842	85	815	82	70-135	3	35	mg/kg	04.02.20 10:29	
Diesel Range Organics (DRO)	<49.8	995	978	98	948	95	70-135	3	35	mg/kg	04.02.20 10:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		133		70-135	%	04.02.20 10:29
o-Terphenyl	126		122		70-135	%	04.02.20 10:29

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3121693 Matrix: Solid Date Prep: 04.01.20
MB Sample Id: 7700314-1-BLK LCS Sample Id: 7700314-1-BKS LCSD Sample Id: 7700314-1-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	0.114	114	0.122	122	70-130	7	35	mg/kg	04.01.20 19:16	
Toluene	<0.00200	0.100	0.107	107	0.110	110	70-130	3	35	mg/kg	04.01.20 19:16	
Ethylbenzene	<0.00200	0.100	0.0981	98	0.100	100	71-129	2	35	mg/kg	04.01.20 19:16	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.194	97	70-135	2	35	mg/kg	04.01.20 19:16	
o-Xylene	<0.00200	0.100	0.0988	99	0.101	101	71-133	2	35	mg/kg	04.01.20 19:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		106		108		70-130	%	04.01.20 19:16
4-Bromofluorobenzene	88		89		86		70-130	%	04.01.20 19:16

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3121693 Matrix: Soil Date Prep: 04.01.20
Parent Sample Id: 657619-001 MS Sample Id: 657619-001 S MSD Sample Id: 657619-001 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	0.129	129	0.124	124	70-130	4	35	mg/kg	04.01.20 19:57	
Toluene	<0.00200	0.0998	0.119	119	0.124	124	70-130	4	35	mg/kg	04.01.20 19:57	
Ethylbenzene	<0.00200	0.0998	0.111	111	0.117	117	71-129	5	35	mg/kg	04.01.20 19:57	
m,p-Xylenes	<0.00399	0.200	0.215	108	0.227	114	70-135	5	35	mg/kg	04.01.20 19:57	
o-Xylene	<0.00200	0.0998	0.109	109	0.114	114	71-133	4	35	mg/kg	04.01.20 19:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	04.01.20 19:57
4-Bromofluorobenzene	85		86		70-130	%	04.01.20 19:57

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: E57619

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 St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	Hackberry 34 CTB	Turn Around	
Project Number:	01292039	Routine ☐	
P.O. Number:		Rush: 24hr	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.2	Thermometer ID		
Received Intact:	Yes No	T-NM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	3	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
BH01	S	04/01/20	1001	0.5'	1	X	X	X
BH01A			1008	2'		X	X	X
BH01B			1041	4'		X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

discrete

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee		4/1/20 1535	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 03.35.00 PM

Work Order #: 657619

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

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 04.01.2020

Checklist reviewed by: Jessica Kramer Date: 04.02.2020