

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	NAB1912738712
District RP	2RP-5395
Facility ID	
Application ID	pAB1912738139

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) NAB1912738712
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.131059° Longitude -103.925630°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 18 Brushy Draw 104H	Site Type Production Well Facility
Date Release Discovered 4/9/2019	API# (if applicable) 30-015-44892

Unit Letter	Section	Township	Range	County
E	18	25S	30E	Eddy

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 6	Volume Recovered (bbls) 2
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

During frac operations, contract company gave a boost to the wellhead prior to the crow valve closing, releasing fluid to the well pad. A vacuum trailer recovered free fluid. Additional third party resources have been retained to assist with remediation. Remediation will begin when completions activities on the well pad have ceased.

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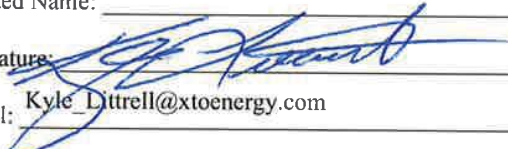

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given 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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Kyle Littrell</u> Signature:  email: <u>Kyle_Littrell@xtoenergy.com</u>	Title: <u>SH&E Supervisor</u> Date: <u>4/23/2019</u> Telephone: <u>432-221-7331</u>
OCD Only Received by:  Date: <u>5/7/2019</u>	

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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?	<u>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

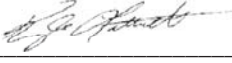
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform 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 SupervisorSignature:  Date: 01/07/2020email: Kyle Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**Received by: Cristina Eads Date: 02/25/2020

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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: 01/07/2020

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

OCD Only

Received by: Cristina Eads Date: 02/25/2020

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: Denied Date: 02/25/2020

Printed Name: Cristina Eads Title: Environmental Specialist



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 7, 2020

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210**RE: Closure Request
PLU 18 Brushy Draw 104H
Remediation Permit Number 2RP-5395
Incident Number NAB1912738712
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 at the PLU 18 Brushy Draw 104H (Site) in Unit E, Section 18, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following the release of produced water at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5395.

RELEASE BACKGROUND

On April 9, 2019, a contract company gave a boost to the wellhead prior to the crow valve closing during frac operations, resulting in a release of approximately 6 barrels (bbls) of produced water onto the caliche well pad. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 2 bbls of produced water 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 April 23, 2019, and was assigned RP Number 2RP-5395.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The closest permitted water well with depth to groundwater data is United States Geological Survey (USGS) well 320857103553301, located approximately 1.25 miles north of the Site. The water well has a depth to groundwater of 264





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feet bgs and a total depth of 385 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an unnamed water body tributary located approximately 4,331 feet 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 located in a low potential karst area. The Site receptors are identified on 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 AND SOIL SAMPLING ACTIVITIES

On May 6, 2019, LTE personnel evaluated the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected four preliminary soil samples (SS01 through SS04) within close proximity to and surrounding the point of release at a depth of approximately 0.5 feet bgs to assess the presence or absence of soil impacts at the ground surface. Soil was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Based on laboratory analytical results for preliminary soil samples SS01 through SS04, excavation activities did not appear to be warranted; however, additional assessment activities were scheduled to further confirm the absence of impacted soil exceeding the Closure Criteria.





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Further delineation and remediation efforts were postponed due to ongoing frac and flowback operations near the release, which resulted in site activity restrictions due to safety concerns. Per 19.15.29.12.B.(1) New Mexico Administrative Code (NMAC), an extension for submission of a remediation plan or closure report was granted. The extension was requested and approved on October 4, 2019, by the New Mexico Oil Conservation District (OCD) District II office.

On January 6, 2020, LTE personnel was able to return to the Site after nearby frac and flowback operations were completed to oversee additional soil assessment activities. Four boreholes (BH01 through BH04) were advanced via hand-auger, to a depth of approximately 2 feet bgs within close proximity to and surrounding the point of release. Boreholes BH01 through BH04 were advanced at the SS01 through SS04 preliminary soil sample locations, respectively.

Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each borehole were documented on a lithologic/soil sampling log and are included as Attachment 1. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. All boreholes were backfilled with the soil removed from each respective borehole. The borehole locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples SS01 through SS04 collected at approximately 0.5 feet bgs and in delineation borehole samples BH01 through BH04 collected at approximately 2 feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Initial and follow-up response efforts as a result of the produced water release included removal of free standing fluid via a hydrovac truck and collection of soil samples. Preliminary soil samples SS01 through SS04 and delineation borehole samples BH01 through BH04 were collected within close proximity to and surrounding the point of release at depths ranging from approximately 0.5 feet to 2 feet bgs to assess for the presence or absence of soil impacts as a result of the April 9, 2019, produced water release. Laboratory analytical results for all soil samples indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.





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Based on surficial and subsurface soil analytical results, soil within proximity to and surrounding the point of release did not appear to be impacted. As a result, soil excavation did not appear warranted and soil assessment activities are complete. XTO requests NFA for RP Number 2RP-5395.

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

Sincerely,
LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads 'Kalei Jennings'.

Kalei Jennings
Project Environmental Scientist

A handwritten signature in black ink that reads 'Ashley L. Ager'.

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

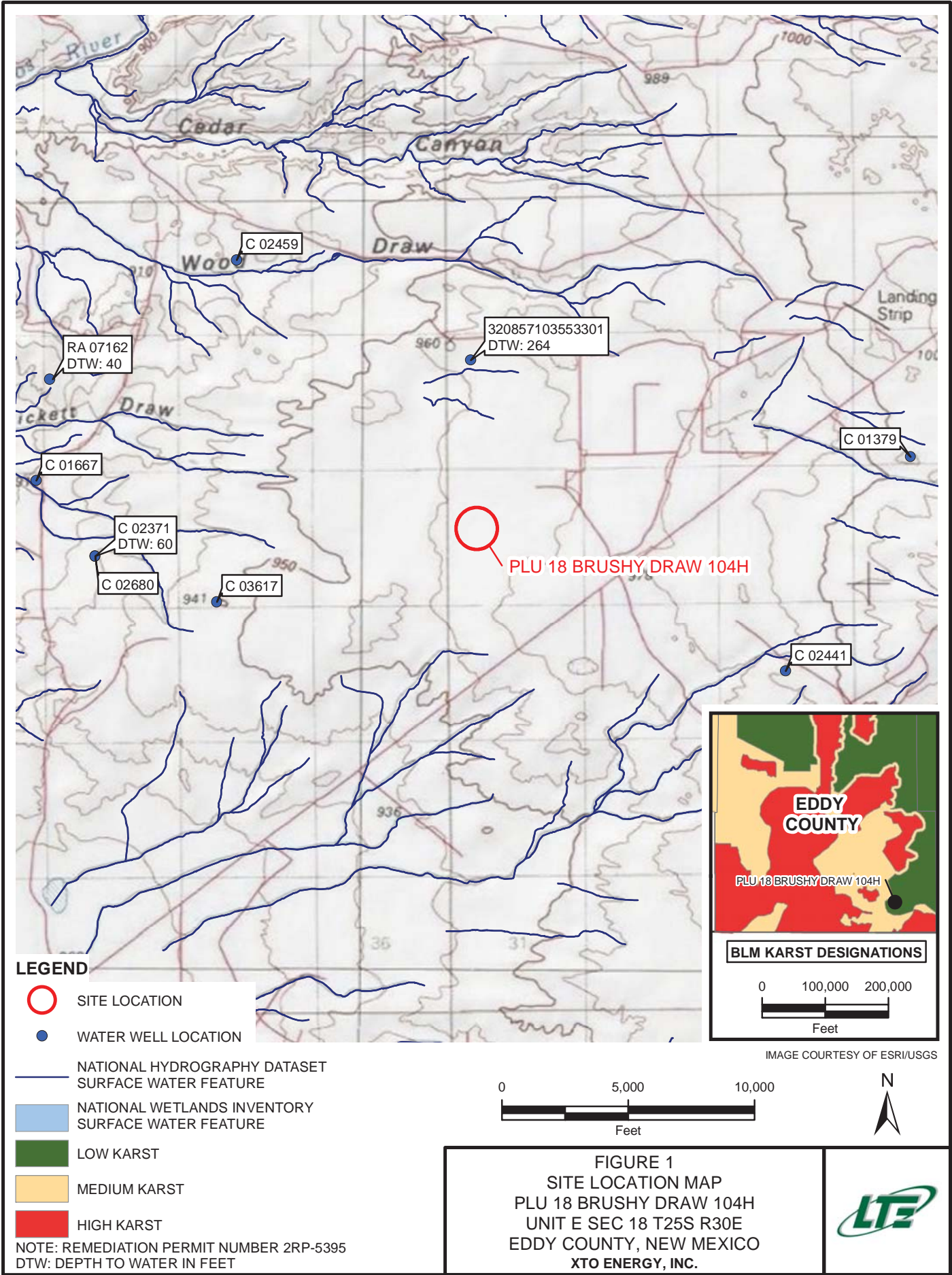
Appendices:

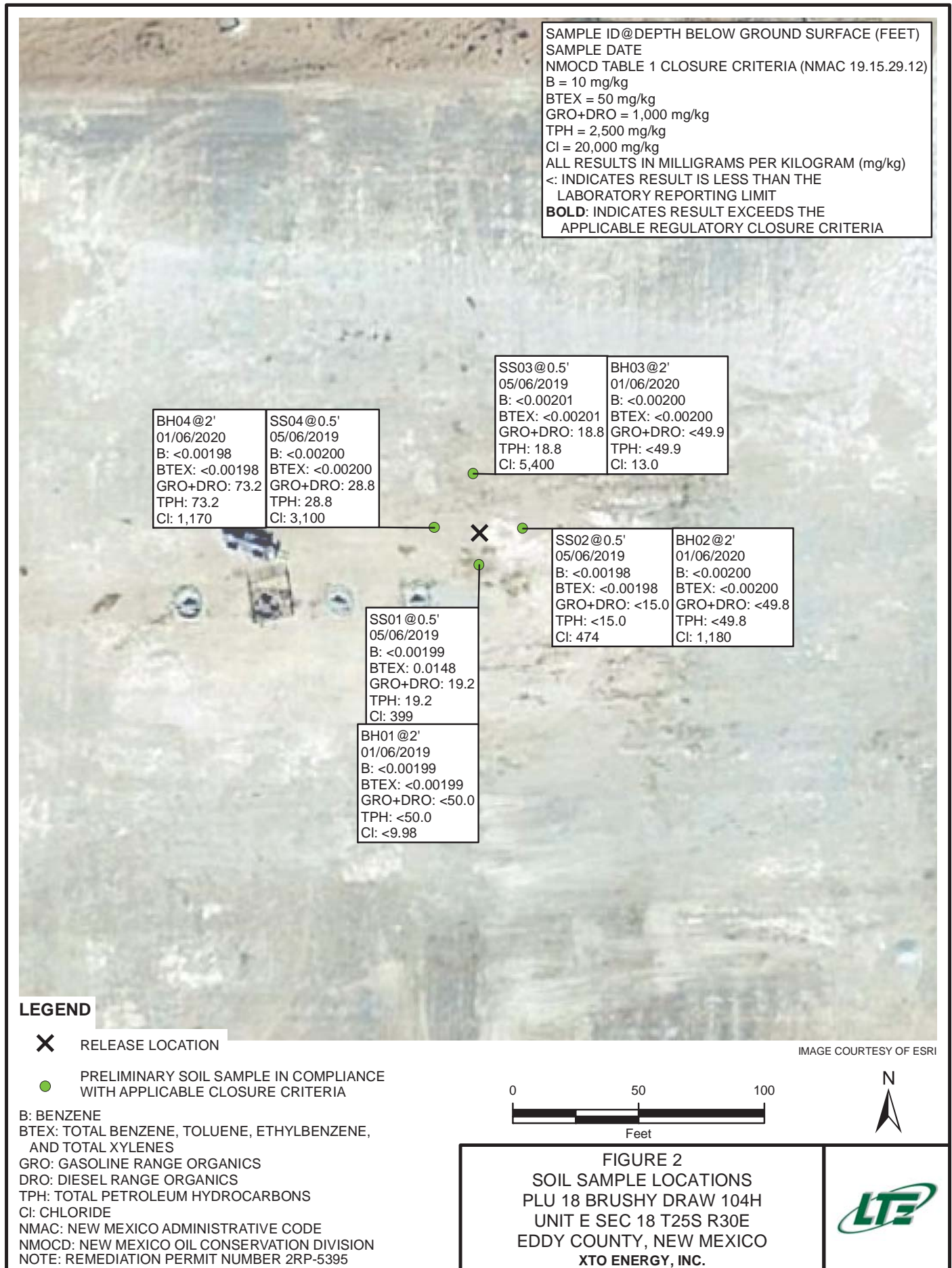
Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Lithologic/Soil Sampling Logs
Attachment 2 Photographic Log
Attachment 3 Laboratory Analytical Reports



FIGURES







TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

PLU 18 BRUSHY DRAW 104H
REMEDIATION PERMIT NUMBER 2RP-5395
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
SS01	0.5	05/06/2019	<0.00199	0.00286	0.00254	0.00943	0.0148	<14.9	19.2	<14.9	19.2	19.2	399
SS02	0.5	05/06/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	474
SS03	0.5	05/06/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	18.8	<15.0	18.8	18.8	5,400
SS04	0.5	05/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	28.8	<15.0	28.8	28.8	3,100
BH01	2	01/06/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
BH02	2	01/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	1,180
BH03	2	01/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	13.0
BH04	2	01/06/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	73.2	<49.8	73.2	73.2	1,170

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons


< - indicates result is below laboratory reporting limits


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





ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLE LOGS



		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BH01		Date: 01/06/20	
				Project Name: PLU 18 Bushy Draw WH		RP Number: 2RP-5395	
Lat/Long:		Field Screening: TPH + Chloride		Logged By: Ellie N.		Method: Hand Auger	
				Hole Diameter:		Total Depth:	
Comments:							
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type
					1		
110	D	>160	0.2	N			
					2	284	S
					3		
					4		
					6		
					8		
					10		
					12		
					14		
					16		
					18		
					20		
					12		
Lithology/Remarks sand, no odor, brown							

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BH02	Date: 01/06/20					
		Project Name: PLU 18 Brushy Draw 104H	RP Number: 2RP-5395					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: pH + Chloride	Logged By: E.N. Hole Diameter:					
			Method: Hand Auger Total Depth:					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			
1125 D	1,187	00	N		2	2ft	S	sand, no odor, brown
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			


 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BH03	Date: 01/06/20					
Project Name: PLU 18 Brushy Draw 1641+		RP Number: 2RP-5395						
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: Elke N.	Method: Hand Auger					
Lat/Long:		Field Screening: TPH + Chloride	Hole Diameter:					
Total Depth:								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1145 D	>160	0.0	N		1			sand, trace silt, no odor, brown
					2	28"	S	
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
12								

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BH64	Date: 01/06/20					
Project Name: PLU 18 Brushy Draw 104H		RP Number: 2RP-5395						
Logged By: Ellie N.		Method: Hand Auger						
Lat/Long:		Field Screening: Chloride TPH & Field Screen EN	Hole Diameter: Total Depth:					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			
					2	28ft	S	sand (course to fine), trace silt, no odor, brown
					3			
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

ATTACHMENT 2: PHOTOGRAPHIC LOG




Northern view of release area during delineation soil sampling activities.

Project: 012919079	XTO Energy, Inc. PLU 18 BRUSHY DRAW 104H	 Advancing Opportunity
January 6, 2020	Photographic Log	



Southern view of release area during delineation soil sampling activities.

Project: 012919079	XTO Energy, Inc. PLU 18 BRUSHY DRAW 104H	 Advancing Opportunity
January 6, 2020	Photographic Log	

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS



Analytical Report 623519

for
LT Environmental, Inc.

Project Manager: Ashley Ager
PLU 18 Brushy Fed 104H

15-MAY-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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

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

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



15-MAY-19

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

Reference: XENCO Report No(s): **623519**
PLU 18 Brushy Fed 104H
Project Address: Delaware Basin

Ashley Ager:

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) 623519. 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. 623519 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**Sample Cross Reference 623519****LT Environmental, Inc., Arvada, CO**

PLU 18 Brushy Fed 104H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05-06-19 14:45	.5 ft	623519-001
SS02	S	05-06-19 15:00	.5 ft	623519-002
SS03	S	05-06-19 15:05	.5 ft	623519-003
SS04	S	05-06-19 15:15	.5 ft	623519-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 18 Brushy Fed 104H

Project ID:

Work Order Number(s): 623519

Report Date: 15-MAY-19

Date Received: 05/08/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089051 BTEX by EPA 8021B

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



Certificate of Analysis Summary 623519

LT Environmental, Inc., Arvada, CO

Project Name: PLU 18 Brushy Fed 104H



Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Wed May-08-19 01:23 pm
Report Date: 15-MAY-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	623519-001	623519-002	623519-003	623519-004		
	Field Id:	SS01	SS02	SS03	SS04		
	Depth:	.5- ft	.5- ft	.5- ft	.5- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	May-06-19 14:45	May-06-19 15:00	May-06-19 15:05	May-06-19 15:15		
BTEX by EPA 8021B		Extracted: May-14-19 10:30 Analyzed: May-14-19 13:28 Units/RL: mg/kg RL	May-14-19 10:30 May-14-19 13:47 mg/kg RL	May-14-19 10:30 May-14-19 14:06 mg/kg RL	May-14-19 10:30 May-14-19 14:26 mg/kg RL		
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
Toluene		0.00286 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
Ethylbenzene		0.00254 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
m,p-Xylenes		0.00644 0.00398	<0.00397 0.00397	<0.00402 0.00402	<0.00399 0.00399		
o-Xylene		0.00299 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
Total Xylenes		0.00943 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
Total BTEX		0.0148 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200		
Chloride by EPA 300		Extracted: May-10-19 12:00 Analyzed: May-10-19 20:09 Units/RL: mg/kg RL	May-10-19 10:00 May-10-19 12:35 mg/kg RL	May-10-19 10:00 May-10-19 12:40 mg/kg RL	May-10-19 10:00 May-10-19 12:45 mg/kg RL		
Chloride		399 4.97	474 5.01	5400 50.3	3100 25.2		
TPH by SW8015 Mod		Extracted: May-11-19 08:00 Analyzed: May-11-19 23:47 Units/RL: mg/kg RL	May-11-19 08:00 May-12-19 00:07 mg/kg RL	May-11-19 08:00 May-12-19 00:27 mg/kg RL	May-11-19 08:00 May-12-19 00:48 mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		19.2 14.9	<15.0 15.0	18.8 15.0	28.8 15.0		
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		19.2 14.9	<15.0 15.0	18.8 15.0	28.8 15.0		
Total GRO-DRO		19.2 14.9	<15.0 15.0	18.8 15.0	28.8 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS01** Matrix: Soil Date Received: 05.08.19 13.23
 Lab Sample Id: 623519-001 Date Collected: 05.06.19 14.45 Sample Depth: .5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.10.19 12.00 Basis: Wet Weight
 Seq Number: 3088730

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	399	4.97	mg/kg	05.10.19 20.09		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.11.19 08.00 Basis: Wet Weight
 Seq Number: 3088794

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.11.19 23.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.2	14.9	mg/kg	05.11.19 23.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.11.19 23.47	U	1
Total TPH	PHC635	19.2	14.9	mg/kg	05.11.19 23.47		1
Total GRO-DRO	PHC628	19.2	14.9	mg/kg	05.11.19 23.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.11.19 23.47	
o-Terphenyl	84-15-1	100	%	70-135	05.11.19 23.47	



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS01**

Matrix: Soil

Date Received: 05.08.19 13.23

Lab Sample Id: 623519-001

Date Collected: 05.06.19 14.45

Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.14.19 10.30

Basis: Wet Weight

Seq Number: 3089051

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.14.19 13.28	U	1
Toluene	108-88-3	0.00286	0.00199	mg/kg	05.14.19 13.28		1
Ethylbenzene	100-41-4	0.00254	0.00199	mg/kg	05.14.19 13.28		1
m,p-Xylenes	179601-23-1	0.00644	0.00398	mg/kg	05.14.19 13.28		1
o-Xylene	95-47-6	0.00299	0.00199	mg/kg	05.14.19 13.28		1
Total Xylenes	1330-20-7	0.00943	0.00199	mg/kg	05.14.19 13.28		1
Total BTEX		0.0148	0.00199	mg/kg	05.14.19 13.28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	05.14.19 13.28		
4-Bromofluorobenzene	460-00-4	78	%	70-130	05.14.19 13.28		



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS02**

Matrix: Soil

Date Received: 05.08.19 13.23

Lab Sample Id: 623519-002

Date Collected: 05.06.19 15.00

Sample Depth: .5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: SPC

Date Prep: 05.10.19 10.00

Basis: Wet Weight

Seq Number: 3088707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	474	5.01	mg/kg	05.10.19 12.35		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 05.11.19 08.00

Basis: Wet Weight

Seq Number: 3088794

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 00.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.19 00.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 00.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.19 00.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.12.19 00.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.12.19 00.07	
o-Terphenyl	84-15-1	102	%	70-135	05.12.19 00.07	



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: SS02	Matrix: Soil	Date Received: 05.08.19 13.23
Lab Sample Id: 623519-002	Date Collected: 05.06.19 15.00	Sample Depth: .5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: SCM		% Moisture:
Analyst: SCM	Date Prep: 05.14.19 10.30	Basis: Wet Weight
Seq Number: 3089051		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.14.19 13.47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.14.19 13.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.14.19 13.47		
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.14.19 13.47		



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS03** Matrix: Soil Date Received: 05.08.19 13.23
 Lab Sample Id: 623519-003 Date Collected: 05.06.19 15.05 Sample Depth: .5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: SPC Date Prep: 05.10.19 10.00 Basis: Wet Weight
 Seq Number: 3088707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5400	50.3	mg/kg	05.10.19 12.40		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.11.19 08.00 Basis: Wet Weight
 Seq Number: 3088794

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 00.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.8	15.0	mg/kg	05.12.19 00.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 00.27	U	1
Total TPH	PHC635	18.8	15.0	mg/kg	05.12.19 00.27		1
Total GRO-DRO	PHC628	18.8	15.0	mg/kg	05.12.19 00.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.12.19 00.27	
o-Terphenyl	84-15-1	103	%	70-135	05.12.19 00.27	



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: SS03	Matrix: Soil	Date Received: 05.08.19 13.23
Lab Sample Id: 623519-003	Date Collected: 05.06.19 15.05	Sample Depth: .5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: SCM		% Moisture:
Analyst: SCM	Date Prep: 05.14.19 10.30	Basis: Wet Weight
Seq Number: 3089051		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.19 14.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.19 14.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.14.19 14.06		
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.14.19 14.06		



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS04** Matrix: Soil Date Received: 05.08.19 13.23
 Lab Sample Id: 623519-004 Date Collected: 05.06.19 15.15 Sample Depth: .5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: SPC Date Prep: 05.10.19 10.00 Basis: Wet Weight
 Seq Number: 3088707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3100	25.2	mg/kg	05.10.19 12.45		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.11.19 08.00 Basis: Wet Weight
 Seq Number: 3088794

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.19 00.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	28.8	15.0	mg/kg	05.12.19 00.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.12.19 00.48	U	1
Total TPH	PHC635	28.8	15.0	mg/kg	05.12.19 00.48		1
Total GRO-DRO	PHC628	28.8	15.0	mg/kg	05.12.19 00.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.12.19 00.48	
o-Terphenyl	84-15-1	101	%	70-135	05.12.19 00.48	



Certificate of Analytical Results 623519



LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Fed 104H

Sample Id: **SS04**

Matrix: Soil

Date Received: 05.08.19 13.23

Lab Sample Id: 623519-004

Date Collected: 05.06.19 15.15

Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.14.19 10.30

Basis: Wet Weight

Seq Number: 3089051

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.19 14.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 14.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.14.19 14.26		
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.14.19 14.26		



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 **SQL** 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 623519

LT Environmental, Inc.

PLU 18 Brushy Fed 104H

Analytical Method: Chloride by EPA 300

Seq Number: 3088707

MB Sample Id: 7677644-1-BLK

Matrix: Solid

LCS Sample Id: 7677644-1-BKS

Prep Method: E300P

Date Prep: 05.10.19

LCSD Sample Id: 7677644-1-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	239	96	242	97	90-110	1	20	mg/kg	05.10.19 11:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3088730

MB Sample Id: 7677645-1-BLK

Matrix: Solid

LCS Sample Id: 7677645-1-BKS

Prep Method: E300P

Date Prep: 05.10.19

LCSD Sample Id: 7677645-1-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	251	100	251	100	90-110	0	20	mg/kg	05.10.19 17:40	

Analytical Method: Chloride by EPA 300

Seq Number: 3088707

Parent Sample Id: 623520-001

Matrix: Soil

MS Sample Id: 623520-001 S

Prep Method: E300P

Date Prep: 05.10.19

MSD Sample Id: 623520-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	411	252	634	88	608	78	90-110	4	20	mg/kg	05.10.19 12:56	X

Analytical Method: Chloride by EPA 300

Seq Number: 3088707

Parent Sample Id: 623790-001

Matrix: Soil

MS Sample Id: 623790-001 S

Prep Method: E300P

Date Prep: 05.10.19

MSD Sample Id: 623790-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	753	259	906	59	892	54	90-110	2	20	mg/kg	05.10.19 11:44	X

Analytical Method: Chloride by EPA 300

Seq Number: 3088730

Parent Sample Id: 623709-001

Matrix: Soil

MS Sample Id: 623709-001 S

Prep Method: E300P

Date Prep: 05.10.19

MSD Sample Id: 623709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.04	252	257	102	257	102	90-110	0	20	mg/kg	05.10.19 17:55	

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 623519

LT Environmental, Inc.

PLU 18 Brushy Fed 104H

Analytical Method: Chloride by EPA 300

Seq Number: 3088730

Parent Sample Id: 623712-001

Matrix: Soil

MS Sample Id: 623712-001 S

Prep Method: E300P

Date Prep: 05.10.19

MSD Sample Id: 623712-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	136	249	379	98	381	98	90-110	1	20	mg/kg	05.10.19 19:07	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3088794

MB Sample Id: 7677672-1-BLK

Matrix: Solid

LCS Sample Id: 7677672-1-BKS

Prep Method: TX1005P

Date Prep: 05.11.19

LCSD Sample Id: 7677672-1-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	1040	104	1010	101	70-135	3	20	mg/kg	05.12.19 08:31	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1040	104	70-135	1	20	mg/kg	05.12.19 08:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		128		126		70-135	%	05.12.19 08:31
o-Terphenyl	94		125		121		70-135	%	05.12.19 08:31

Analytical Method: TPH by SW8015 Mod

Seq Number: 3088794

Parent Sample Id: 623497-021

Matrix: Soil

MS Sample Id: 623497-021 S

Prep Method: TX1005P

Date Prep: 05.11.19

MSD Sample Id: 623497-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.98	997	981	97	974	97	70-135	1	20	mg/kg	05.11.19 22:06	
Diesel Range Organics (DRO)	27.6	997	1000	98	980	95	70-135	2	20	mg/kg	05.11.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.11.19 22:06
o-Terphenyl	116		116		70-135	%	05.11.19 22:06

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 623519

LT Environmental, Inc.

PLU 18 Brushy Fed 104H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3089051

MB Sample Id: 7677859-1-BLK

Matrix: Solid

LCS Sample Id: 7677859-1-BKS

Prep Method: SW5030B

Date Prep: 05.14.19

LCSD Sample Id: 7677859-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.106	105	0.111	111	70-130	5	35	mg/kg	05.14.19 23:35	
Toluene	<0.000459	0.101	0.0988	98	0.103	103	70-130	4	35	mg/kg	05.14.19 23:35	
Ethylbenzene	<0.000569	0.101	0.105	104	0.109	109	70-130	4	35	mg/kg	05.14.19 23:35	
m,p-Xylenes	<0.00102	0.202	0.217	107	0.226	113	70-130	4	35	mg/kg	05.14.19 23:35	
o-Xylene	<0.000347	0.101	0.105	104	0.109	109	70-130	4	35	mg/kg	05.14.19 23:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		102		104		70-130	%	05.14.19 23:35
4-Bromofluorobenzene	84		99		102		70-130	%	05.14.19 23:35

Analytical Method: BTEX by EPA 8021B

Seq Number: 3089051

Parent Sample Id: 623519-001

Matrix: Soil

MS Sample Id: 623519-001 S

Prep Method: SW5030B

Date Prep: 05.14.19

MSD Sample Id: 623519-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.00120	0.0998	0.105	104	0.110	108	70-130	5	35	mg/kg	05.14.19 12:13	
Toluene	0.00286	0.0998	0.0903	88	0.0992	95	70-130	9	35	mg/kg	05.14.19 12:13	
Ethylbenzene	0.00254	0.0998	0.0874	85	0.0989	95	70-130	12	35	mg/kg	05.14.19 12:13	
m,p-Xylenes	0.00644	0.200	0.178	86	0.203	98	70-130	13	35	mg/kg	05.14.19 12:13	
o-Xylene	0.00299	0.0998	0.0862	83	0.0984	94	70-130	13	35	mg/kg	05.14.19 12:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	05.14.19 12:13
4-Bromofluorobenzene	101		101		70-130	%	05.14.19 12:13

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

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

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

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



Chain of Custody

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 4 of 4

Work Order No:

623519

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	432.704.5178	Email:	Ggreen@leny.com

Project Name:	PLU18BrushyFed 109H	Turn Around	
Project Number:		Routine	<input checked="" type="checkbox"/>
P.O. Number:	04/09/2019 - 5/11/2020	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT		Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Thermometer ID		Correction Factor:		Total Containers:	
Temperature (°C):	0.310.2	Received intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)												Sample Comments
SS01	S	5/6/19	1445	5'	1	X	X	X												
SS02	S		1500		1	X	X	X												
SS03	S		1505		1	X	X	X												
SS04	S		1518		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	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Ti	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:	8RCRA	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Ti	Sn	U	V	Zn

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5/19/2020	<i>[Signature]</i>	<i>[Signature]</i>	5/19/2020

5/7/2019

FedEx Ship Manager - Print Your Label(s)

ORIGIN ID:CAOA (281) 240-4200 SAMPLE CUSTODY XENCO LABORATORIES NM 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US	SHIP DATE: 07MAY19 ACTWGT: 49.00 LB CAD: 114488676/NET4100 DIMS: 24x12x13 IN BILL SENDER
TO SAMPLE RECEIVING	
3600 S COUNTY ROAD 1276 MIDLAND TX 79706 (432) 704-5440 REF: PO: DEPT:	
	
	
565J1/D66C/23AD	
TRK# 7751 5811 5398 0201	WED - 08 MAY HOLD PRIORITY OVERNIGHT HLD 79706 TX-US LBB
	
41 MAFA	

After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 05/08/2019 01:23:00 PM

Work Order #: 623519

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 05/08/2019

Checklist reviewed by:

Jessica Kramer

Date: 05/08/2019

Analytical Report 648003

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 18 Brushy Draw 104H

07-JAN-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)



07-JAN-20

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

Reference: XENCO Report No(s): **648003**
PLU 18 Brushy Draw 104H
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) 648003. 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. 648003 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,

A handwritten signature in black ink that reads 'Holly Taylor'. The signature is fluid and cursive, with the first name 'Holly' and last name 'Taylor' clearly distinguishable.

Holly Taylor

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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

**Sample Cross Reference 648003****LT Environmental, Inc., Arvada, CO**

PLU 18 Brushy Draw 104H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	01-06-20 11:10	2 ft	648003-001
BH02	S	01-06-20 11:25	2 ft	648003-002
BH03	S	01-06-20 11:45	2 ft	648003-003
BH04	S	01-06-20 12:35	2 ft	648003-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 18 Brushy Draw 104H

Project ID:

Work Order Number(s): 648003

Report Date: 07-JAN-20

Date Received: 01/06/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112466 BTEX by EPA 8021B

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



Certificate of Analysis Summary 648003

LT Environmental, Inc., Arvada, CO
Project Name: PLU 18 Brushy Draw 104H

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

Date Received in Lab: Mon Jan-06-20 02:17 pm
Report Date: 07-JAN-20
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648003-001	648003-002	648003-003	648003-004		
	Field Id:	BH01	BH02	BH03	BH04		
	Depth:	2- ft	2- ft	2- ft	2- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Jan-06-20 11:10	Jan-06-20 11:25	Jan-06-20 11:45	Jan-06-20 12:35		
BTEX by EPA 8021B	Extracted:	Jan-06-20 15:00	Jan-06-20 15:00	Jan-06-20 15:00	Jan-06-20 15:00		
	Analyzed:	Jan-06-20 18:15	Jan-06-20 18:32	Jan-06-20 18:50	Jan-06-20 19:07		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00399 0.00399	<0.00396 0.00396		
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198		
Chloride by EPA 300	Extracted:	Jan-06-20 15:00	Jan-06-20 15:00	Jan-06-20 15:00	Jan-06-20 15:00		
	Analyzed:	Jan-06-20 16:29	Jan-06-20 16:46	Jan-06-20 16:51	Jan-06-20 16:57		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<9.98 9.98	1180 49.8	13.0 9.94	1170 49.4		
TPH by SW8015 Mod SUB: T104704400-19-19	Extracted:	Jan-07-20 08:00	Jan-07-20 08:00	Jan-07-20 08:00	Jan-07-20 08:00		
	Analyzed:	Jan-07-20 10:38	Jan-07-20 10:38	Jan-07-20 10:58	Jan-07-20 10:58		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.8 49.8		
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	73.2 49.8		
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.8 49.8		
Total GRO-DRO		<50.0 50.0	<49.8 49.8	<49.9 49.9	73.2 49.8		
Total TPH		<50.0 50.0	<49.8 49.8	<49.9 49.9	73.2 49.8		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Holly Taylor
Project Manager



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: BH01	Matrix: Soil	Date Received: 01.06.20 14.17
Lab Sample Id: 648003-001	Date Collected: 01.06.20 11.10	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.06.20 15.00	Basis: Wet Weight
Seq Number: 3112464		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.06.20 16.29	U	1

Analytical Method: TPH by SW8015 Mod	Prep Method: SW8015P
Tech: DTH	% Moisture:
Analyst: DTH	Basis: Wet Weight
Seq Number: 3112515	SUB: T104704400-19-19
Date Prep: 01.07.20 08.00	

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 10.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.07.20 10.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 10.38	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.07.20 10.38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.07.20 10.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	01.07.20 10.38	
o-Terphenyl	84-15-1	128	%	70-135	01.07.20 10.38	



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: **BH01**

Matrix: Soil

Date Received: 01.06.20 14.17

Lab Sample Id: 648003-001

Date Collected: 01.06.20 11.10

Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.06.20 15.00

Basis: Wet Weight

Seq Number: 3112466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.06.20 18.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.06.20 18.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.06.20 18.15		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.06.20 18.15		



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: BH02	Matrix: Soil	Date Received: 01.06.20 14.17
Lab Sample Id: 648003-002	Date Collected: 01.06.20 11.25	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.06.20 15.00	Basis: Wet Weight
Seq Number: 3112464		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1180	49.8	mg/kg	01.06.20 16.46		5

Analytical Method: TPH by SW8015 Mod	Prep Method: SW8015P
Tech: DTH	% Moisture:
Analyst: DTH	Basis: Wet Weight
Seq Number: 3112515	SUB: T104704400-19-19
Date Prep: 01.07.20 08.00	

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 10.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.07.20 10.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 10.38	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.07.20 10.38	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.07.20 10.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.07.20 10.38	
o-Terphenyl	84-15-1	119	%	70-135	01.07.20 10.38	



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: **BH02**

Matrix: Soil

Date Received: 01.06.20 14.17

Lab Sample Id: 648003-002

Date Collected: 01.06.20 11.25

Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.06.20 15.00

Basis: Wet Weight

Seq Number: 3112466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.06.20 18.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.06.20 18.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.06.20 18.32		
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.06.20 18.32		



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: BH03	Matrix: Soil	Date Received: 01.06.20 14.17
Lab Sample Id: 648003-003	Date Collected: 01.06.20 11.45	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.06.20 15.00	Basis: Wet Weight
Seq Number: 3112464		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	9.94	mg/kg	01.06.20 16.51		1

Analytical Method: TPH by SW8015 Mod	Prep Method: SW8015P
Tech: DTH	% Moisture:
Analyst: DTH	Basis: Wet Weight
Seq Number: 3112515	SUB: T104704400-19-19
Date Prep: 01.07.20 08.00	

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.07.20 10.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.07.20 10.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.07.20 10.58	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	01.07.20 10.58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.07.20 10.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.07.20 10.58	
o-Terphenyl	84-15-1	118	%	70-135	01.07.20 10.58	



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: **BH03**

Matrix: Soil

Date Received: 01.06.20 14.17

Lab Sample Id: 648003-003

Date Collected: 01.06.20 11.45

Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.06.20 15.00

Basis: Wet Weight

Seq Number: 3112466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.06.20 18.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.06.20 18.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.06.20 18.50		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.06.20 18.50		



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: BH04	Matrix: Soil	Date Received: 01.06.20 14.17
Lab Sample Id: 648003-004	Date Collected: 01.06.20 12.35	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.06.20 15.00	Basis: Wet Weight
Seq Number: 3112464		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1170	49.4	mg/kg	01.06.20 16.57		5

Analytical Method: TPH by SW8015 Mod	Prep Method: SW8015P
Tech: DTH	% Moisture:
Analyst: DTH	Basis: Wet Weight
Seq Number: 3112515	SUB: T104704400-19-19
Date Prep: 01.07.20 08.00	

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 10.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	73.2	49.8	mg/kg	01.07.20 10.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 10.58	U	1
Total GRO-DRO	PHC628	73.2	49.8	mg/kg	01.07.20 10.58		1
Total TPH	PHC635	73.2	49.8	mg/kg	01.07.20 10.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.07.20 10.58	
o-Terphenyl	84-15-1	118	%	70-135	01.07.20 10.58	



Certificate of Analytical Results 648003

LT Environmental, Inc., Arvada, CO

PLU 18 Brushy Draw 104H

Sample Id: BH04	Matrix: Soil	Date Received: 01.06.20 14.17
Lab Sample Id: 648003-004	Date Collected: 01.06.20 12.35	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.06.20 15.00	Basis: Wet Weight
Seq Number: 3112466		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.06.20 19.07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.06.20 19.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.06.20 19.07		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.06.20 19.07		



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 **SQL** Sample 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 648003

LT Environmental, Inc.

PLU 18 Brushy Draw 104H

Analytical Method: Chloride by EPA 300

Seq Number: 3112464

MB Sample Id: 7693779-1-BLK

Matrix: Solid

LCS Sample Id: 7693779-1-BKS

Prep Method: E300P

Date Prep: 01.06.20

LCSD Sample Id: 7693779-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	248	99	245	98	90-110	1	20	mg/kg	01.06.20 15:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3112464

Parent Sample Id: 647999-001

Matrix: Soil

MS Sample Id: 647999-001 S

Prep Method: E300P

Date Prep: 01.06.20

MSD Sample Id: 647999-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1850	198	2000	76	2040	96	90-110	2	20	mg/kg	01.06.20 16:01	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

MB Sample Id: 7693809-1-BLK

Matrix: Solid

LCS Sample Id: 7693809-1-BKS

Prep Method: SW8015P

Date Prep: 01.07.20

LCSD Sample Id: 7693809-1-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)	<13.9	1000	1270	127	1310	131	70-135	3	35	mg/kg	01.07.20 09:19	
Diesel Range Organics (DRO)	<11.5	1000	1210	121	1240	124	70-135	2	35	mg/kg	01.07.20 09:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		134		130		70-135	%	01.07.20 09:19
o-Terphenyl	114		125		121		70-135	%	01.07.20 09:19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

Matrix: Solid
MB Sample Id: 7693809-1-BLK

Prep Method: SW8015P

Date Prep: 01.07.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.07.20 08:59	

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 648003

LT Environmental, Inc.

PLU 18 Brushy Draw 104H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

Parent Sample Id: 647999-001

Matrix: Soil

MS Sample Id: 647999-001 S

Prep Method: SW8015P

Date Prep: 01.07.20

MSD Sample Id: 647999-001 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)	<13.9	1000	1420	142	1210	122	70-135	16	35	mg/kg	01.07.20 12:31	X
Diesel Range Organics (DRO)	98.4	1000	1350	125	1130	104	70-135	18	35	mg/kg	01.07.20 12:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		123		70-135	%	01.07.20 12:31
o-Terphenyl	107		96		70-135	%	01.07.20 12:31

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112466

MB Sample Id: 7693780-1-BLK

Matrix: Solid

LCS Sample Id: 7693780-1-BKS

Prep Method: SW5030B

Date Prep: 01.06.20

LCSD Sample Id: 7693780-1-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	0.110	110	0.108	108	70-130	2	35	mg/kg	01.06.20 13:03	
Toluene	<0.00200	0.100	0.109	109	0.108	108	70-130	1	35	mg/kg	01.06.20 13:03	
Ethylbenzene	<0.00200	0.100	0.108	108	0.106	106	71-129	2	35	mg/kg	01.06.20 13:03	
m,p-Xylenes	<0.00400	0.200	0.222	111	0.220	110	70-135	1	35	mg/kg	01.06.20 13:03	
o-Xylene	<0.00200	0.100	0.109	109	0.107	107	71-133	2	35	mg/kg	01.06.20 13:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		102		101		70-130	%	01.06.20 13:03
4-Bromofluorobenzene	97		103		102		70-130	%	01.06.20 13:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112466

Parent Sample Id: 647999-001

Matrix: Soil

MS Sample Id: 647999-001 S

Prep Method: SW5030B

Date Prep: 01.06.20

MSD Sample Id: 647999-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.103	104	0.0960	97	70-130	7	35	mg/kg	01.06.20 15:56	
Toluene	<0.00198	0.0990	0.0951	96	0.0880	89	70-130	8	35	mg/kg	01.06.20 15:56	
Ethylbenzene	<0.00198	0.0990	0.0801	81	0.0725	73	71-129	10	35	mg/kg	01.06.20 15:56	
m,p-Xylenes	<0.00396	0.198	0.163	82	0.147	74	70-135	10	35	mg/kg	01.06.20 15:56	
o-Xylene	<0.00198	0.0990	0.0814	82	0.0739	75	71-133	10	35	mg/kg	01.06.20 15:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		70-130	%	01.06.20 15:56
4-Bromofluorobenzene	106		102		70-130	%	01.06.20 15:56

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

Work Order No: 648003



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



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

[illegible][illegible]

Notice: Signature of this document constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$2 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/01/20 14:17			
		4			
		6			



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01/06/2020 02:17:00 PM

Work Order #: 648003

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#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: 01/06/2020

Checklist reviewed by:

Jessica Kramer

Date: 01/07/2020