

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	NRM2001040198
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

6PEQQ-191115-C-1410

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 32.0805206 Longitude -103.9928131
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	West Brushy Draw 33 1 Battery	Site Type	Well Location
Date Release Discovered	11/01/2019	API# (if applicable)	30-015-36971

Unit Letter	Section	Township	Range	County
N	33	25S	29E	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls) 0.0	Volume Recovered (bbls) 0.0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 35.0	Volume Recovered (bbls) 35.0
	Is the concentration of dissolved chloride 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: Water tank ran over into impervious lined containment. The well was shut-in and a vacuum truck was called out and picked up approximately 35 barrels of produced water. A 48-hour advance notice of liner inspection was provided by email to NMOCD District 2. The liner was visually inspected and the inspector determined the liner to be insufficient. Delineation for deferral will be conducted by a third party contractor.

Form C-141

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Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? YES – An unauthorized release of fluid over 25 barrels
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? YES by Amy Ruth : to Mike Bratcher; Robert Hamlet; Victoria Venegas; and Jim Griswold; on November 2, 2019.	

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> Title: <u>SH&E Supervisor</u> Signature:  Date: <u>11/15/2019</u> email: <u>Kyle.Littrell@xtoenergy.com</u> Telephone: _____
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>01/10/2020</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?	50-100 (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.

State of New Mexico
Oil Conservation Division

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Incident ID	NRM2001040198
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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

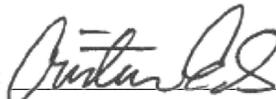
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: 11/5/20
 email: Kyle_Littrell@xtoenergy.com Telephone: _____

OCD Only

Received by: Cristina Eads Date: 11/20/2020

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:  Date: 2/03/2021
 Printed Name: Cristina Eads Title: Environmental Specialist



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

November 5, 2020

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Closure Request Addendum
West Brushy Draw 33 1 Battery
Incident Number NRM2001040198
Eddy County, New Mexico**

To Whom It May Concern:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following addendum to the original Closure Request submitted on February 24, 2020. This addendum provides an update to the depth to groundwater determination activities at the West Brushy Draw 33 1 Battery (Site) in Unit N, Section 33, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1) in response to the denial of the Closure Request by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD expressed concern that the depth to groundwater assessment may not be sufficient. Based on the additional depth to groundwater determination activities described below, XTO is requesting no further action (NFA) for Incident Number NRM2001040198.

BACKGROUND

On February 24, 2020, LTE submitted a Closure Request to the NMOCD for a produced water tank overflow release of 35 bbls (barrels) of produced water into impervious lined containment. A vacuum truck was dispatched to the Site to recover the free-standing liquids; approximately 35 bbls of produced water were recovered. A 48-hour advance notice of liner inspection was provided by email to NMOCD. The liner was visually inspected, and the inspector determined the liner to be insufficient.

The Closure Request detailed site characterization 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). Based on the site characterization, the following Closure Criteria were applied:

- 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: 10,000 mg/kg

Following the failed liner integrity inspection, LTE personnel advanced one borehole (BH01) via hand auger in the location of the hole in the liner. Delineation soil samples BH01 and BH01A were collected from depths of approximately 0.5 feet and 1 foot bgs, respectively. The delineation soil sample locations are provided on the attached Figure 2. Lithologic/soil sampling logs are included in Attachment 1 and photographs of the Site are included in Attachment 2.

Closure was requested based on laboratory analytical results for the delineation soil samples indicating benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 3.

The NMOCD denied the Closure Request for Incident Number NRM2001040198 for the following reasons:

- *The depth to groundwater has been incorrectly assessed. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If XTO believes that groundwater is > 50', a borehole will need to be drilled onsite and a copy of the driller's log must be provided.*
- *If XTO chooses not to drill a borehole to confirm the depth to groundwater, the site must be remediated to meet the Closure Criteria in Table 1 for groundwater at a depth of 50 feet or less.*

ADDITIONAL SITE ACTIVITIES

In an effort to confirm the depth to groundwater determination, LTE installed a soil boring at the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring BH02 was drilled to a depth of 17 feet bgs prior to encountering refusal. As such, LTE personnel relocate the drilling equipment by a few feet and drilled soil boring BH03 to a depth of 55 feet bgs. An LTE geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole lithologic/soil sampling logs are included in Attachment 1. The locations of the boreholes are provided on Figure 1. The boreholes were left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 55 feet bgs. The boreholes were properly abandoned with drill cuttings and hydrated bentonite chips.



DEPTH TO WATER DETERMINATION

The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 320532104001701, located approximately 1.1 miles northwest of the Site. The water well has a depth to groundwater of 98 feet and a total depth of 128 feet bgs. Ground surface elevation at the water well location is 2,988 feet above mean sea level (AMSL), which is approximately 5 feet lower in elevation than the Site. The next closest water well with depth to water data is NMOSE well C03508, located approximately 1.5 miles southwest of the Site. The water well has a depth to groundwater of 75 feet and a total depth of 140 feet bgs. Ground surface elevation at the water well location is 2,910 feet AMSL, which is approximately 83 feet lower in elevation than the Site. Referenced well records are included in Attachment 4.

Soil boring BH03 was advanced to 55 feet bgs at the Site. Groundwater was not encountered and no groundwater filled in during a 72-hour period. LTE confirmed a depth to groundwater greater than 55 feet at the Site, which correlates to the depth to groundwater of 98 feet in USGS well 320532104001701 and 75 feet in NMOSE well C03508. As such, the Table 1 Closure Criteria identified in the original Closure Request are applicable and appropriate for protection of groundwater at this Site.

CLOSURE REQUEST

Site assessment and soil sampling activities were completed at the Site to confirm delineation soil samples were compliant with the Closure Criteria following the November 1, 2019 release of produced water within lined containment. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Based on the confirmed depth to water greater than 55 feet bgs as presented in this addendum and laboratory analytical results below the Closure Criteria in the delineation soil samples, XTO respectfully requests no further action for Incident Number NRM2001040198.



District II
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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 'Elizabeth Naka'.

Elizabeth Naka
Staff Environmental Scientist

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

Ashley L. Ager, P.G.
Senior Geologist

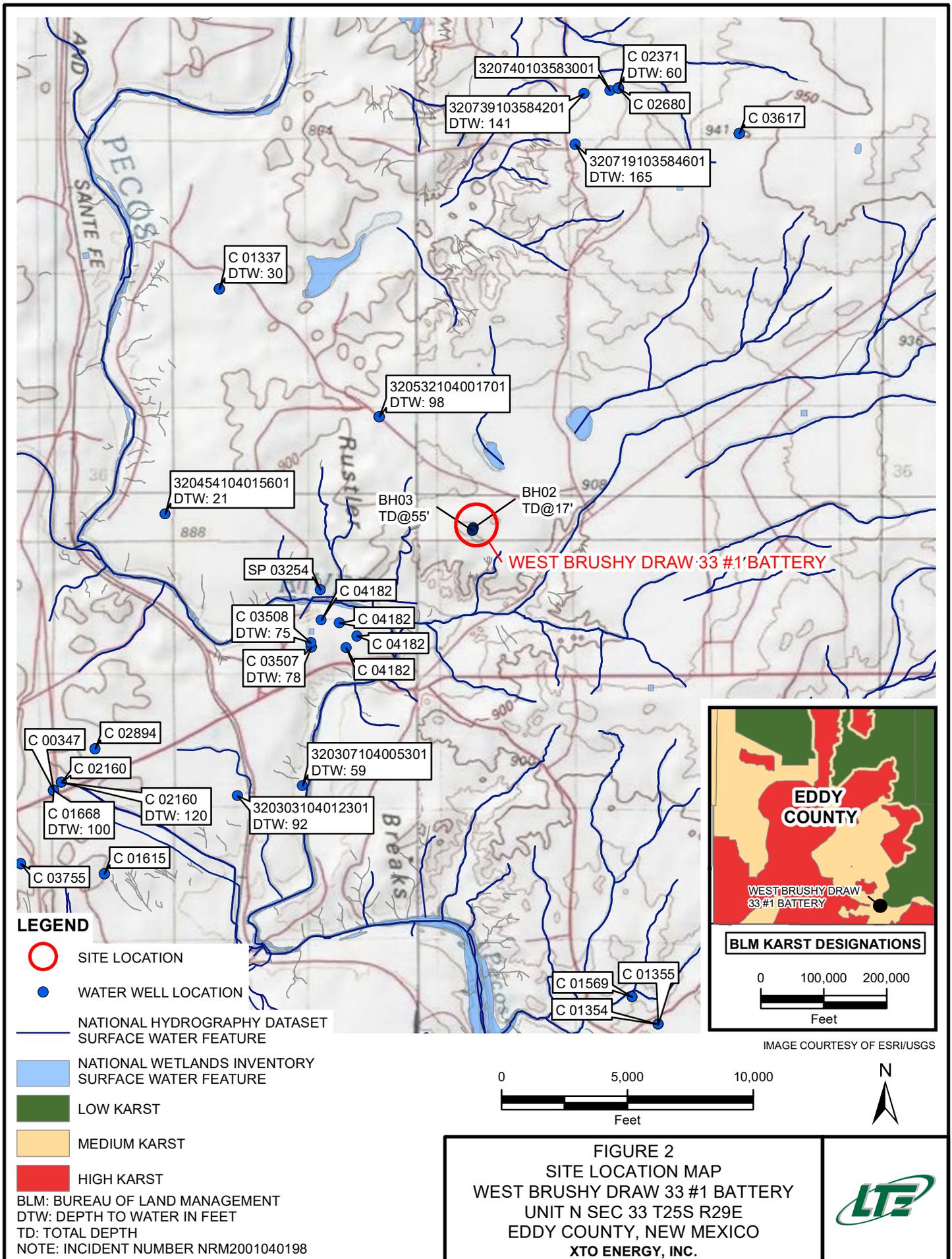
cc: Kyle Littrell, XTO
Jim Amos, United States Bureau of Land Management – New Mexico
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

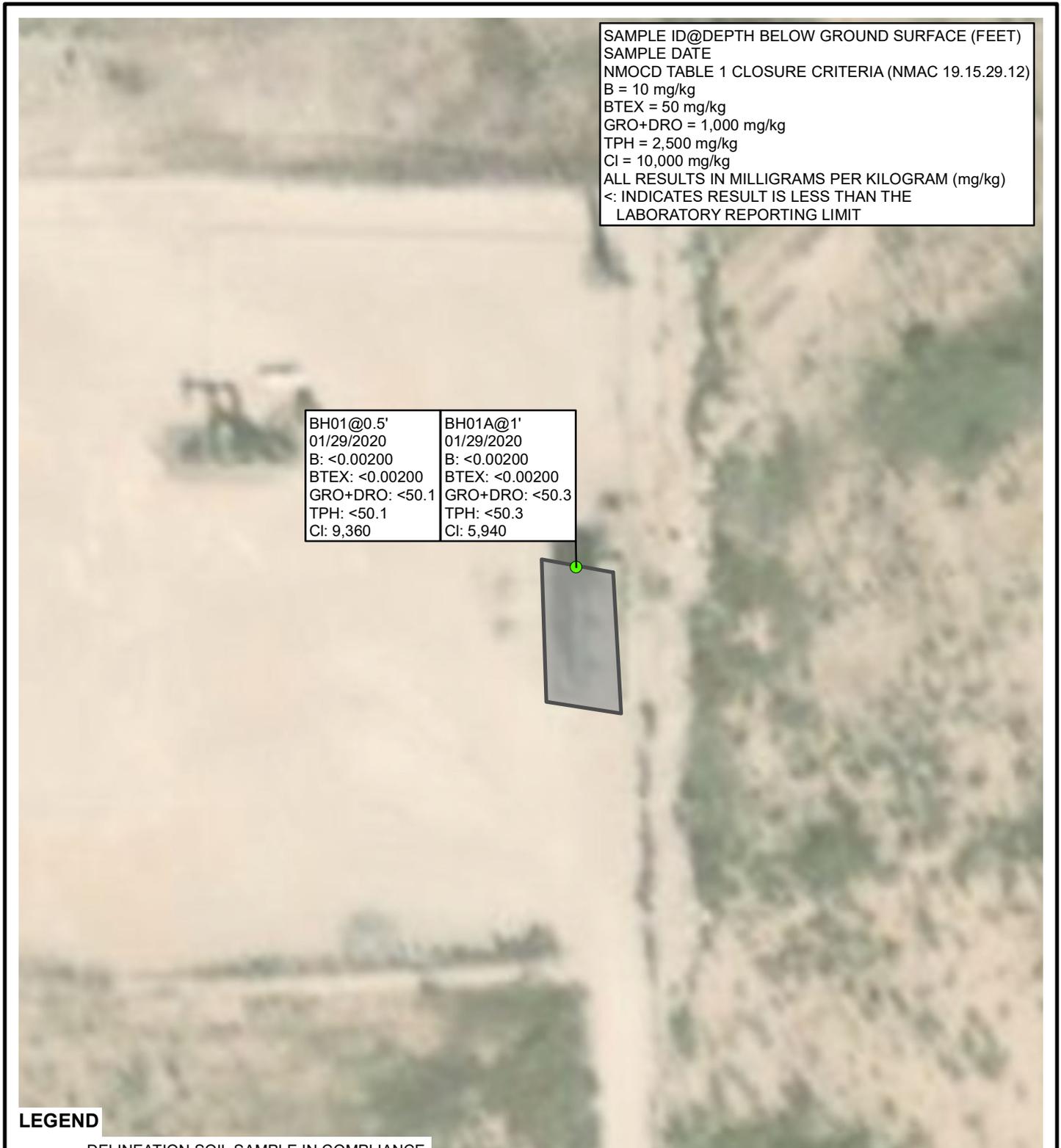
Attachments:

- Figure 1 Site Location Map
- Figure 2 Delineation Soil Sample Locations
- Table 1 Soil Analytical Results
- Attachment 1 Lithologic / Soil Sample Logs
- Attachment 2 Photographic Log
- Attachment 3 Laboratory Analytical Reports
- Attachment 4 Referenced Well Logs

FIGURES







SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 10,000 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT

LEGEND

 DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

 TANK BATTERY CONTAINMENT

B: BENZENE
 BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
 GRO: GASOLINE RANGE ORGANICS
 DRO: DIESEL RANGE ORGANICS
 TPH: TOTAL PETROLEUM HYDROCARBONS
 Cl: CHLORIDE
 NMAC: NEW MEXICO ADMINISTRATIVE CODE
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 NOTE: REMEDIATION PERMIT NUMBER NOT ASSIGNED

IMAGE COURTESY OF ESRI

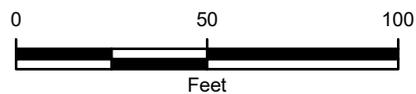


FIGURE 2
 DELINEATION SOIL SAMPLE LOCATIONS
 WEST BRUSHY DRAW 33 #1 BATTERY
 UNIT N SEC 33 T25S R29E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



TABLES



**TABLE 1
SOIL ANALYTICAL RESULTS**

**WEST BRUSHY DRAW 33 1 BATTERY
INCIDENTT NUMBER NRM2001040198
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	10,000
BH01	0.5	01/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	9,360
BH01A	1	01/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	5,940

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

ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLING LOGS



 <p style="text-align: center;">LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation</p>		Identifier: BH01	Date: 01/29/2020
		Project Name: West Brushy Draw 33 #1	RP Number: 11/01/2019
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: GG	Method: Hand Auger
Lat/Long:		Field Screening: CTS/PID	Hole Diameter:
Comments:		Total Depth: 1'	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1320	D	10,819	1.3	N	BH01	0.5		caliche w/ large gravel & small gravel Tan - light brown
1350	D	6664	0.1	N	BH01A	1		caliche w/ large - small gravel Tan - light brown
					2			Auger refusal @ 1'2"
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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

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BH or MW Name:

BH02

Date:

10/9/20

Site Name: WEST BRUSHY

RP or Incident Number: NRM 2001040198

LTE Job Number: 012919273

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.080155,
-103.993144

Field Screening:
Chloride, PID

Logged By: NM

Method: HSA

Hole Diameter: 8 1/4"

Total Depth: 17'
Depth to Water:

Backfill or Well Construction Materials / Comments:

Located on SW corner of Pad, Pad considerably consolidated multiple start-attempts

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
			N			0	CCHE	0-14' Caliche, High consolidation, Tan/off white, Silty, NO stain, NO odor, dry	
M			N			1			
			N			2			
			N			3		3' - Shift to Mod. consolidation color change to tan	
			N			4		Gravel present, (rounded, 2mil-30)	
M			N			5			
			N			6			
			N			7			
			N			8	CCHE	7-13 SAND, medium to high grad, Rd/brown, silty, NO stain, NO odor, moist	
			N			9			
			N			10			
			N			11			
			N			12			
			N			13	CCHE	13' - Caliche, High consolidation, Rd/tan, Silty, NO stain, NO odor, moist	
			N			14		- Gravel some (rounded, 1mil-15mil)	
			N			15			
			N			16			
			N			17			
			N			18	lime stone dolomite	- Shift to tan white Refusal at 17' bgs	
			N			19		Cuttings appear to be a very highly consolidated conglomerate limestone dolomite.	
			N			20			
			N			21			
			N			22			
			N			23			

* Switching to Air Rotary



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

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BH or PH Name: **BH03** Date: **10/12/2020**
Site Name: **West BD 33 Barr.**
RP or Incident Number: **NRM2001040198**
LTE Job Number: **012919273**

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: **ESB** Method: **HSA / Air Rotary**
Hole Diameter: **6.25"/4.5"** Total Depth: **55'**

Lat/Long: **32.079882, -103.993300** Field Screening: **Chloride, PID ^{NA}**

Comments: *Only lithology descriptions and observations logged. Bore hole backfilled to surface with same material previously removed.*

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			1	SC	0-1 Clayey SAND, dry, brown-light brown, poorly graded, very fine - fine grain, 20-30% clay, trace sub-rounded caliche gravel, no stain, no odor.
D			N			2	CCHE	
						3		
						4		
D			N			5		1-17' CALICHE, dry, off white, well consolidated, very silty, some angular - sub angular gravel, no stain, no odor. 5'-17' moderately consolidated.
						6		
						7		
						8		
M			N			9		9-17' Moist, sub-rounded gravel, lighter pink-tan. 17' - switch over to air rotary from hollow stem auger. (6.25" dia. to 4.5" dia.)
						10		
						11		
						12		
D			N			13		17'-25' SANDSTONE w/ gravel, dry, well graded, well consolidated, light brown - brown, coarse - fine grain, abundant angular - sub angular red, dark brown, tan, black gravel, no stain, no odor.
						14		
						15		
						16		
D			N			17		25'-30' MUDSTONE, dry, reddish-brown, light plasticity, cohesive, gradual transition, moderately consolidated, no stain, no odor.
						18	SW-5	
						19		
						20		
			N			21		
						22		
						23		
						24		
			N			25	CH-5	



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

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Compliance · Engineering · Remediation

BH or PH Name:

BH03

Date:

10/12/2020

Site Name: West BD 33 Barr.

RP or Incident Number: NRM2001040198

LTE Job Number: 012919273

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: BB

Method: HSA/Air Rotary

Hole Diameter: 6.25"/4.5"

Total Depth: 55'

Lat/Long: 32.079882, -103.993300

Field Screening: N/A

Comments: only 1. Phosby descriptions and observations logged. Borehole backfilled to surface with same material previously removed.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			26	CH-S	30'-55' SANDSTONE, dry, reddish brown, moderately consolidated, fine-grained, poorly sorted, trace subrounded gravel, no stain, no odor.
						27		
						28		
						29		
D			N			30		
						31	SP-S	
						32		
						33		
						34		
D			N			35		
						36		
						37		
						38		
						39		
D			N			40		
						41		
						42		
						43		
						44		
D			N			45		
						46		
						47		
						48		
						49		
D			N			50		

40'-55' gravel absent.



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

A proud member
 of WSP

Compliance · Engineering · Remediation

BH or PH Name: BH03	Date: 10/12/2020
Site Name: West 3D 33 Batt.	
RP or Incident Number: NRM2001040198	
LTE Job Number: 012919273	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: BB	Method: HSA / Air Rotary
Hole Diameter: 6.25" / 4.5"	Total Depth: 55'

Lat/Long: 32.079882 -103.993300

Field Screening: N/A

Comments: only lithology descriptions and observations logged. Borehole backfilled to surface with same material previously removed.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			51	SP-S	TD @ 55' bgs
						52		
						53		
						54		
D			N			55		
						56	TD @ 55'	
						57		
						58		
						59		
						60		
						61		
						62		
						63		
						64		
						65		
						66		
						67		
						68		
						69		
						70		
						71		
						72		
						73		
						74		
						75		

ATTACHMENT 2: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of point of release and surrounding impervious lined containment facing north-northeast.



Photograph 2: View of area where liner was deemed insufficient on northern end of lined containment.



Photograph 3: View of area where liner was deemed insufficient facing west.

PHOTOGRAPHIC LOG



Photograph 4: View of patched liner facing west.



Photograph 5: View of BH02 location facing West.



Photograph 6: View of BH03 location facing northeast.

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS





Analytical Report 650840

for

LT Environmental, Inc.

Project Manager: Dan Moir

West Brushy Draw 33 #1

012919213

02.10.2020

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)



02.10.2020

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

Reference: XENCO Report No(s): **650840**
West Brushy Draw 33 #1
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) 650840. 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. 650840 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'. The signature is written in a cursive, slightly slanted style.

Jessica Kramer
Project Assistant

A Small Business and Minority Company

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



Sample Cross Reference 650840

LT Environmental, Inc., Arvada, CO

West Brushy Draw 33 #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	01.29.2020 13:20	.05 ft	650840-001
BH01A	S	01.29.2020 13:50	1 ft	650840-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: West Brushy Draw 33 #1

Project ID: 012919213
Work Order Number(s): 650840

Report Date: 02.10.2020
Date Received: 01.30.2020

Sample receipt non conformances and comments:

V1.001 Corrected sample 001 & 002 name per Kalei Jennings (email) JK 02/10/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115037 Inorganic Anions by EPA 300

Lab Sample ID 650840-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 650840-001, -002.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3115056 BTEX by EPA 8021B

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

Batch: LBA-3115070 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 650840-001.



Certificate of Analysis Summary 650840

LT Environmental, Inc., Arvada, CO

Project Name: West Brushy Draw 33 #1

Project Id: 012919213

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu 01.30.2020 10:30

Report Date: 02.10.2020 10:25

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	650840-001	650840-002			
	<i>Field Id:</i>	BH01	BH01A			
	<i>Depth:</i>	.05- ft	1- ft			
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	01.29.2020 13:20	01.29.2020 13:50			
BTEX by EPA 8021B	<i>Extracted:</i>	01.30.2020 12:00	01.30.2020 12:00			
	<i>Analyzed:</i>	01.30.2020 18:40	01.30.2020 19:00			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200			
Toluene		<0.00200 0.00200	<0.00200 0.00200			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200			
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200			
Chloride by EPA 300	<i>Extracted:</i>	01.30.2020 12:00	01.30.2020 12:00			
	<i>Analyzed:</i>	01.30.2020 16:09	01.30.2020 14:05			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Chloride		9360 499	5940 49.6			
TPH by SW8015 Mod	<i>Extracted:</i>	01.30.2020 13:00	01.30.2020 13:00			
	<i>Analyzed:</i>	01.30.2020 19:45	01.30.2020 20:05			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.3 50.3			
Diesel Range Organics (DRO)		<50.1 50.1	<50.3 50.3			
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.3 50.3			
Total GRO-DRO		<50.1 50.1	<50.3 50.3			
Total TPH		<50.1 50.1	<50.3 50.3			

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
Project Assistant



Certificate of Analytical Results 650840

LT Environmental, Inc., Arvada, CO

West Brushy Draw 33 #1

Sample Id: BH01	Matrix: Soil	Date Received: 01.30.2020 10:30
Lab Sample Id: 650840-001	Date Collected: 01.29.2020 13:20	Sample Depth: .05 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.30.2020 12:00	Basis: Wet Weight
Seq Number: 3115037		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9360	499	mg/kg	01.30.2020 16:09		50

Analytical Method: TPH by SW8015 Mod	Prep Method: SW8015P
Tech: DTH	% Moisture:
Analyst: DTH	Date Prep: 01.30.2020 13:00
Seq Number: 3115070	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.30.2020 19:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.30.2020 19:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.30.2020 19:45	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.30.2020 19:45	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.30.2020 19:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	136	%	70-135	01.30.2020 19:45	**
o-Terphenyl	84-15-1	123	%	70-135	01.30.2020 19:45	



Certificate of Analytical Results 650840

LT Environmental, Inc., Arvada, CO

West Brushy Draw 33 #1

Sample Id: BH01	Matrix: Soil	Date Received: 01.30.2020 10:30
Lab Sample Id: 650840-001	Date Collected: 01.29.2020 13:20	Sample Depth: .05 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.30.2020 12:00	Basis: Wet Weight
Seq Number: 3115056		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.30.2020 18:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.30.2020 18:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.30.2020 18:40	
4-Bromofluorobenzene	460-00-4	95	%	70-130	01.30.2020 18:40	



Certificate of Analytical Results 650840

LT Environmental, Inc., Arvada, CO

West Brushy Draw 33 #1

Sample Id: **BH01A** Matrix: Soil Date Received: 01.30.2020 10:30
 Lab Sample Id: 650840-002 Date Collected: 01.29.2020 13:50 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 01.30.2020 12:00 Basis: Wet Weight
 Seq Number: 3115037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5940	49.6	mg/kg	01.30.2020 14:05		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 01.30.2020 13:00 Basis: Wet Weight
 Seq Number: 3115070

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.30.2020 20:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.30.2020 20:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.30.2020 20:05	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.30.2020 20:05	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.30.2020 20:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	01.30.2020 20:05	
o-Terphenyl	84-15-1	121	%	70-135	01.30.2020 20:05	



Certificate of Analytical Results 650840

LT Environmental, Inc., Arvada, CO

West Brushy Draw 33 #1

Sample Id: BH01A	Matrix: Soil	Date Received: 01.30.2020 10:30
Lab Sample Id: 650840-002	Date Collected: 01.29.2020 13:50	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 01.30.2020 12:00	Basis: Wet Weight
Seq Number: 3115056		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.30.2020 19:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.30.2020 19:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.30.2020 19:00	
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.30.2020 19:00	



LT Environmental, Inc.
West Brushy Draw 33 #1

Analytical Method: Chloride by EPA 300

Seq Number: 3115037
MB Sample Id: 7695576-1-BLK

Matrix: Solid
LCS Sample Id: 7695576-1-BKS

Prep Method: E300P
Date Prep: 01.30.2020
LCSD Sample Id: 7695576-1-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	262	105	262	105	90-110	0	20	mg/kg	01.30.2020 12:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3115037
Parent Sample Id: 650838-001

Matrix: Soil
MS Sample Id: 650838-001 S

Prep Method: E300P
Date Prep: 01.30.2020
MSD Sample Id: 650838-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	235	198	1270	523	1310	543	90-110	3	20	mg/kg	01.30.2020 12:36	X

Analytical Method: Chloride by EPA 300

Seq Number: 3115037
Parent Sample Id: 650840-001

Matrix: Soil
MS Sample Id: 650840-001 S

Prep Method: E300P
Date Prep: 01.30.2020
MSD Sample Id: 650840-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9360	249	9690	133	9680	129	90-110	0	20	mg/kg	01.30.2020 16:15	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115070
MB Sample Id: 7695612-1-BLK

Matrix: Solid
LCS Sample Id: 7695612-1-BKS

Prep Method: SW8015P
Date Prep: 01.30.2020
LCSD Sample Id: 7695612-1-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	975	98	972	97	70-135	0	35	mg/kg	01.30.2020 18:05	
Diesel Range Organics (DRO)	<50.0	1000	822	82	801	80	70-135	3	35	mg/kg	01.30.2020 18:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		118		115		70-135	%	01.30.2020 18:05
o-Terphenyl	122		106		99		70-135	%	01.30.2020 18:05

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115070

Matrix: Solid
MB Sample Id: 7695612-1-BLK

Prep Method: SW8015P
Date Prep: 01.30.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.30.2020 17:45	

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



LT Environmental, Inc.
West Brushy Draw 33 #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115070
Parent Sample Id: 650838-001

Matrix: Soil
MS Sample Id: 650838-001 S

Prep Method: SW8015P
Date Prep: 01.30.2020
MSD Sample Id: 650838-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	990	99	965	97	70-135	3	35	mg/kg	01.30.2020 18:25	
Diesel Range Organics (DRO)	<50.0	999	815	82	994	99	70-135	20	35	mg/kg	01.30.2020 18:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		134		70-135	%	01.30.2020 18:25
o-Terphenyl	99		127		70-135	%	01.30.2020 18:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115056
MB Sample Id: 7695572-1-BLK

Matrix: Solid
LCS Sample Id: 7695572-1-BKS

Prep Method: SW5030B
Date Prep: 01.30.2020
LCSD Sample Id: 7695572-1-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	0.119	119	0.109	109	70-130	9	35	mg/kg	01.30.2020 12:46	
Toluene	<0.00200	0.100	0.109	109	0.0994	99	70-130	9	35	mg/kg	01.30.2020 12:46	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0946	95	71-129	9	35	mg/kg	01.30.2020 12:46	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.184	92	70-135	9	35	mg/kg	01.30.2020 12:46	
o-Xylene	<0.00200	0.100	0.102	102	0.0938	94	71-133	8	35	mg/kg	01.30.2020 12:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		109		70-130	%	01.30.2020 12:46
4-Bromofluorobenzene	90		89		94		70-130	%	01.30.2020 12:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115056
Parent Sample Id: 650838-001

Matrix: Soil
MS Sample Id: 650838-001 S

Prep Method: SW5030B
Date Prep: 01.30.2020
MSD Sample Id: 650838-001 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	0.0988	0.119	120	0.116	117	70-130	3	35	mg/kg	01.30.2020 13:27	
Toluene	<0.00198	0.0988	0.128	130	0.106	107	70-130	19	35	mg/kg	01.30.2020 13:27	
Ethylbenzene	<0.00198	0.0988	0.123	124	0.102	103	71-129	19	35	mg/kg	01.30.2020 13:27	
m,p-Xylenes	<0.00395	0.198	0.240	121	0.199	101	70-135	19	35	mg/kg	01.30.2020 13:27	
o-Xylene	<0.00198	0.0988	0.120	121	0.0992	100	71-133	19	35	mg/kg	01.30.2020 13:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	01.30.2020 13:27
4-Bromofluorobenzene	94		92		70-130	%	01.30.2020 13:27

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

Work Order No: 050840

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Page 1 of 1

Project Manager:	Dan Moir	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@xenco.com ; dmoir@xenco.com
Project Name:	West Brushy Draw 33#1	Turn Around	<input type="checkbox"/> Routine <input type="checkbox"/> Rush: 24H
Project Number:	012919273	P.O. Number:	11/01/2019
Sampler's Name:	Garrett Green	Due Date:	

SAMPLE RECEIPT		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	0-8	Thermometer ID			
Received Inlet:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	T-NM-007		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:	2		
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers				Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)		
BR04	S	01/24/2010	1320	5'	X	X	X		
BR04A	S	01/24/2010	1350	1'	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti 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 Ti U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[Signature]	[Signature]	1/30/10 10:30	[Signature]	[Signature]	

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.30.2020 10.30.00 AM

Work Order #: 650840

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:


Elizabeth McClellan

Date: 01.30.2020

Checklist reviewed by:


Jessica Kramer

Date: 01.30.2020

ATTACHMENT 4: REFERENCED WELL LOGS





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320532104001701

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320532104001701 25S.29E.32.21111

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°05'32", Longitude 104°00'17" NAD27

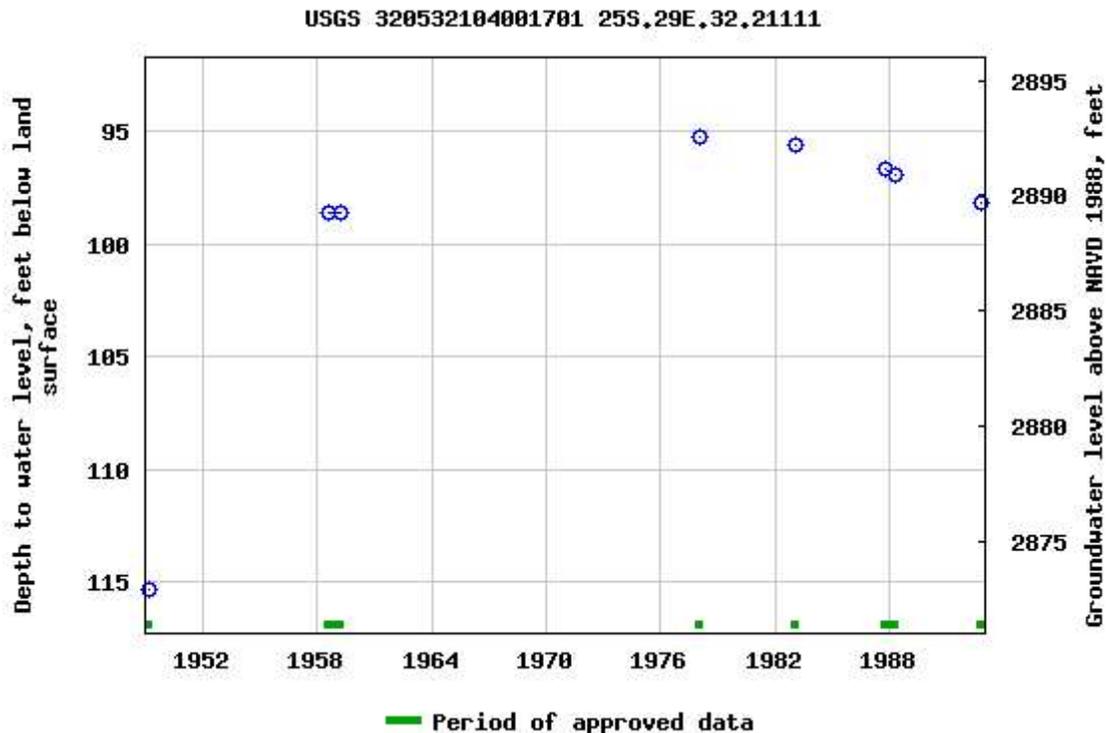
Land-surface elevation 2,988 feet above NAVD88

The depth of the well is 128 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2020-10-27 14:02:29 EDT

0.64 0.57 nadww01



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	03508 POD1	1	3	3	05	26S	29E	593063	3548361

Driller License:	1058	Driller Company:	KEY'S DRILLING & PUMP SERVICE						
Driller Name:	KEY, CLINTON								
Drill Start Date:	08/24/2011	Drill Finish Date:	08/24/2011	Plug Date:					
Log File Date:	09/12/2011	PCW Rev Date:		Source:	Shallow				
Pump Type:	SUBMER	Pipe Discharge Size:		Estimated Yield:	40 GPM				
Casing Size:	6.00	Depth Well:	140 feet	Depth Water:	75 feet				

Water Bearing Stratifications:	Top	Bottom	Description
	75	76	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	65	105

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/27/20 12:02 PM

POINT OF DIVERSION SUMMARY

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 11283

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC Building #5	6401 Holiday Hill Road Midland, TX79707	OGRID: 5380	Action Number: 11283	Action Type: C-141
OCD Reviewer ceads		Condition None		