



November 26, 2024

**New Mexico Oil Conservation Division**

1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request  
Big Eddy Unit DI 29 Battery  
Incident Number nAPP2424738940  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document liner inspection, delineation, and soil sampling activities at the Big Eddy Unit DI 29 Battery (Site). The purpose of the liner inspection, delineation, and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing remedial activities that have occurred and requesting no further action for Incident Number nAPP2424738940.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit D, Section 21, Township 20 South, Range 32 East, in Lea County, New Mexico (32.56533°, 103.77795°) and is associated with oil and gas exploration and production on federal land managed by the Bureau of Land Management (BLM).

On August 28, 2024, the air eliminator failed resulting in the release of approximately 10 barrels (bbls) of crude oil into a lined containment. An estimated 0.02 bbls of crude oil overflowed onto the surface of the facility pad. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; all 10 bbls of fluids released within the lined containment were recovered. XTO submitted a Notification of Release (NOR) and Initial C-141 Application (C-141) to the New Mexico Oil Conservation Division (NMOCD) on September 3, 2024. The release was assigned Incident Number nAPP2424738940.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

The Site was characterized to determine the applicability of Table I, Closure Criteria for Soils Impacted by a Release of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below.

Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. On October 26, 2021, a soil boring (CP-1891) was drilled within 0.5 miles of the Site utilizing a hollow-stem auger drilling rig. Soil boring CP-1891 was drilled to a depth of 55 feet bgs. Groundwater was encountered within the soil boring at 33 feet bgs. The location of the soil boring CP-1891 is depicted on Figure 1. The soil boring

XTO Energy, Inc.  
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was properly abandoned using Type I/II neat cement from 55 feet bgs to ground surface. The Well Record and Log for CP-1891 is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 398 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Potential site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I 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): 100 mg/kg
- Chloride: 600 mg/kg

## **LINER INSPECTION AND DELINEATION ACTIVITIES**

On September 10, 2024, a 48-hour advance notice of liner inspection was provided to the NMOCD and a liner integrity inspection was conducted by Ensolum on September 12, 2024. Liner inspection results indicated the liner was not operating as designed as a tear in the liner was observed. The location of the tear was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was collected during the inspection and a photographic log is provided in Appendix B.

On November 18, 2024, Ensolum personnel returned to the Site to conduct delineation activities. One borehole (BH01) was advanced at the location of the tear in the liner identified during the liner inspection. Due to competent bedrock underlying the lined containment at the Site, borehole BH01 was completed utilizing a core drill. Three discrete delineation soil samples were collected from the borehole at depths of 0.5 feet, 4 feet, and 6 feet bgs. Soil from the borehole was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix C. The borehole was backfilled with soil removed and the liner was repaired. Four additional delineation soil samples (SS01 through SS04) were collected around the lined containment from a depth of 0.5 feet bgs to confirm the lateral extent of the release. Borehole BH01 and the delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2.

The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500.

## **SURFACE SCRAPING AND SOIL SAMPLING ACTIVITIES**

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Between October 11 and November 22, 2024, surface scraping and soil sampling activities were conducted to address the small release area resulting from the release overflowing the containment. The soil was removed from the release area as indicated by visible staining. The surface scraping was conducted utilizing hand tools and a backhoe and occurred on the facility pad, immediately adjacent to the lined containment. Approximately 1 cubic yard of soil was removed in a 55 square foot area. Following the removal of the stained soil, Ensolum personnel collected a 5-point composite soil sample (CS01) representing the surface scraped area. The 5-point composite soil sample was collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil sample CS01 was collected from surface scraped area at a depth of approximately 0.5 feet bgs. The surface scraped area and CS01 locations are presented on Figure 3.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation and confirmation soil samples collected indicated that all COC concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

## CLOSURE REQUEST

Liner inspection, delineation, and confirmation soil sampling activities were conducted at the Site to address the August 28, 2024, release of crude oil. Laboratory analytical results for all delineation and confirmation soil samples collected indicated that all COC concentrations were compliant with the Closure Criteria. The release is delineated vertically through delineation soil samples collected within BH01, advanced at the location of the tear in the liner. The release is delineated laterally through delineation soil samples SS01 through SS04 collected outside of the release extent. Laboratory analytical results from confirmation soil sample CS01 indicated COC concentrations were below Closure Criteria, indicating the absence of impacted soil. Based on the soil sample analytical results, no further remediation was required.

Based on initial response efforts, surface scraping activities, the liner repair following delineation activities, and all soil sample laboratory analytical results compliant with the Closure Criteria, XTO respectfully requests closure for Incident Number nAPP2424738940. XTO believes these remedial actions are protective of human health, the environment, and groundwater.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or [tmorrissey@ensolum.com](mailto:tmorrissey@ensolum.com).

Sincerely,  
**Ensolum, LLC**

A handwritten signature in black ink, appearing to read "B. J. Belill".

Benjamin J. Belill  
Senior Geologist

A handwritten signature in black ink, appearing to read "T Morrissey".

Tacoma Morrissey  
Associate Principal

cc: Colton Brown, XTO  
Kaylan Dirkx, XTO

XTO Energy, Inc.  
Closure Request  
Big Eddy Unit DI 29 Battery



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## BLM

### Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Well Record and Log
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES

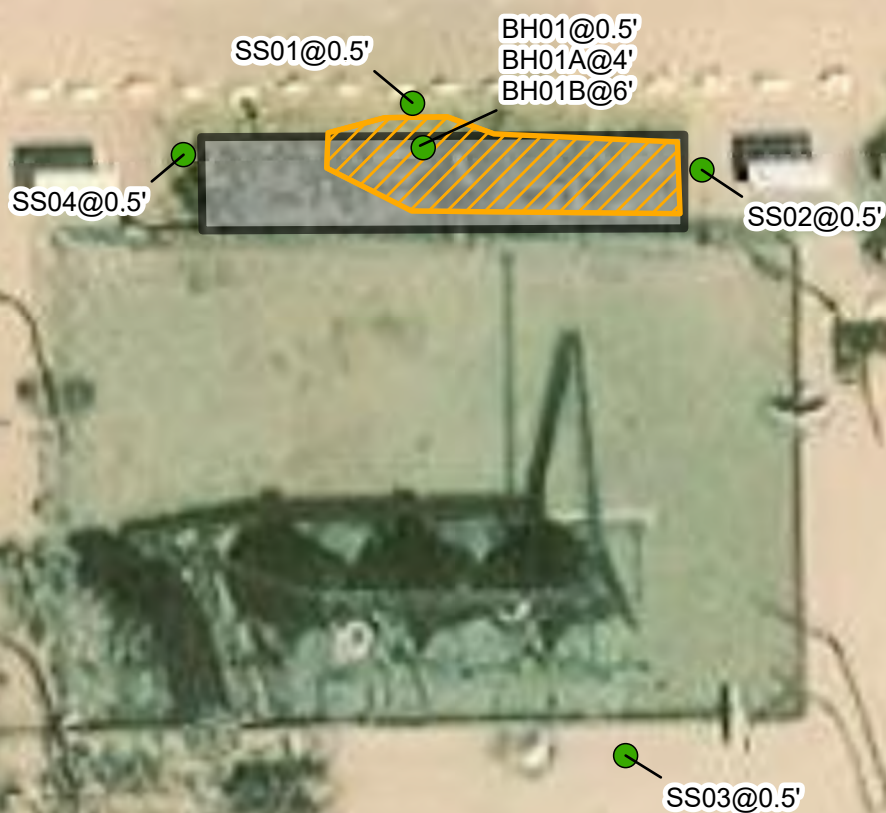






**Legend**

- Delineation Soil Sample Location Compliant with Closure Criteria
- Release Extent
- Lined Containment Area



0 5 10 20 30 40  
Feet

Sources: Environmental Systems Research Institute (ESRI)






## Delineation Soil Sample Locations

XTO Energy, Inc.  
Big Eddy Unit DI 29 Battery  
Incident Number: nAPP2424738940  
Unit D, Sec 21, T20S, R32E  
Eddy Co, New Mexico, United States

**FIGURE**  
**2**

**Legend**

-  Excavation Extent
-  Confirmation Soil Sample Compliant with Closure Criteria
-  Polygon Features - Other selection



CS01@0.5'

Notes:  
Sample ID @ Depth Below Ground Surface.

0 5 10 20 30 40  
Feet

Sources: Environmental Systems Research Institute (ESRI)

**Confirmation Soil Sample Locations**

XTO Energy, Inc.  
Big Eddy Unit DI 29 Battery  
Incident Number: nAPP2424738940  
Unit D, Sec 21, T20S, R32E  
Eddy Co, New Mexico, United States

**FIGURE****3**





TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Big Eddy Unit DI 29 Battery / Incident Number nAPP2424738940  
 XTO Energy, Inc  
 Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Delineation Soil Samples										
SS01	11/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SS02	11/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SS03	11/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS04	11/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
BH01	11/18/2024	0.5	0.067	1.57	<10.0	<10.0	<10.0	<10.0	<10.0	64
BH01A	11/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64
BH01B	11/18/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
Confirmation Soil Samples										
CS01	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code



## APPENDIX A

### Referenced Well Records

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). CP-1891			
	WELL OWNER NAME(S) XTO Energy (Adrian Baker)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES 32		MINUTES 33	SECONDS 59.48	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LATITUDE		103	46	41.34	* DATUM REQUIRED: WGS 84	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE SE Unit M Sec16 T20S R32E, NMPM								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 10/26/2021		DRILLING ENDED 10/26/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 55	DEPTH WATER FIRST ENCOUNTERED (FT) ±33	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 33.20		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES – SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER – SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	55	±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. CP-1891	POD NO. 1	TRN NO. 709444
LOCATION 20S.32E.14.333	WELL TAG ID NO.	PAGE 1 OF 2




4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	4	4	Caliche, Mod. Consolidated, Tan, Dry	Y    ✓ N	
	4	8	4	Sand, fine-very grained, poorly graded, Brown, moist	Y    ✓ N	
	8	16	8	Sand, fine-very grained, poorly graded, with gravel Pinkish Brown, moist	Y    ✓ N	
	16	20	4	Sand, fine-very grained, poorly graded, with clayey gravel, Light Brown, moist	Y    ✓ N	
	20	26	6	Clayey Sand, very fine grained, poorly graded, caliche gravel, Tan , moist	Y    ✓ N	
	26	36	10	Clayey Sand, med-fine grained, poorly graded, caliche gravel, Brown , moist	✓ Y    N	
	36	49	13	Sandstone, mod consolidated, with increasing clay Reddish Brown, Moist	✓ Y    N	
	49	55	6	Claystone, low plasticity, cohesive, Dark Brown, moist	✓ Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring plugged using Type I/II neat cement from total depth to surface with augers as tremie. Logs adapted from WSP on-site geologist.	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	Jackie D. Atkins DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



## APPENDIX B

### Photographic Log

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# Photographic Log

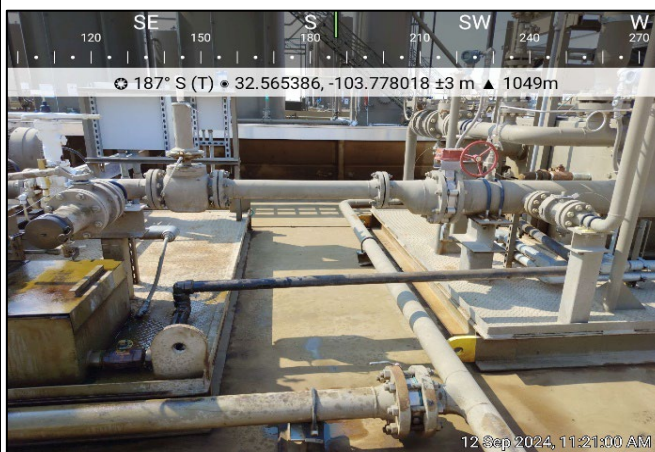
XTO Energy, Inc

Big Eddy Unit DI 29 Battery

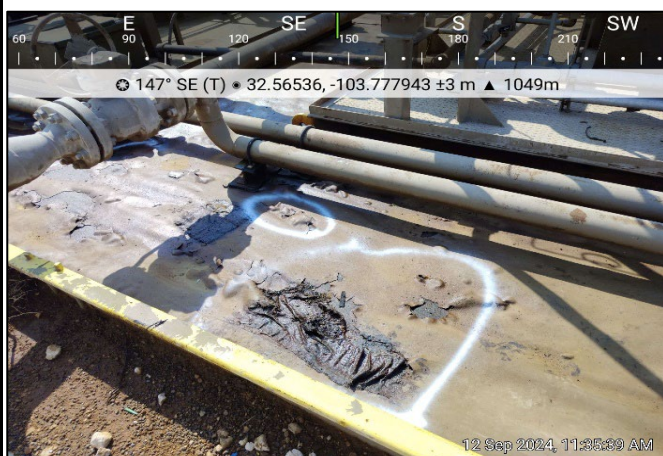
Incident Number nAPP2424738940



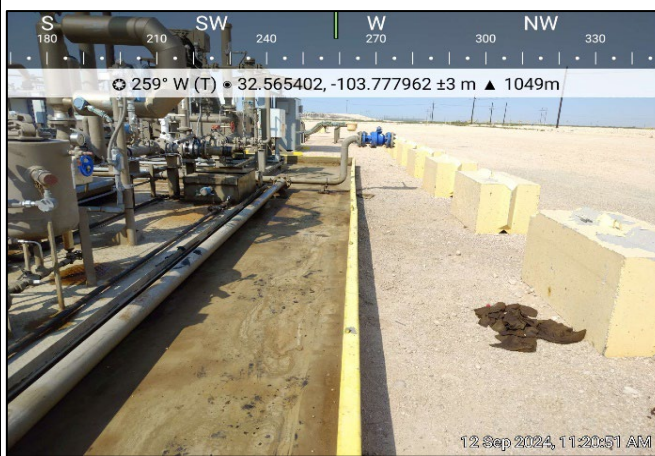
Photograph: 1 Date: 9/12/2024  
Description: Liner inspection activities, facility sign.  
View: East



Photograph: 2 Date: 9/12/2024  
Description: Liner inspection activities.  
View: South



Photograph: 3 Date: 9/12/2024  
Description: Liner inspection activities, liner breach.  
View: Southeast



Photograph: 4 Date: 9/12/2024  
Description: Liner inspection activities.  
View: West





## Photographic Log

XTO Energy, Inc

Big Eddy Unit DI 29 Battery

Incident Number nAPP2424738940



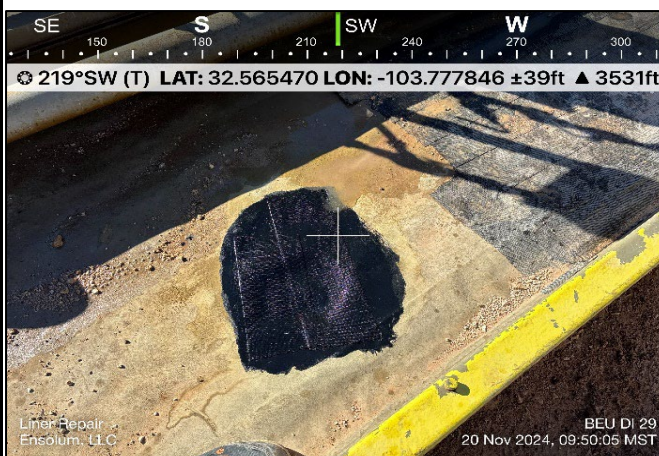
Photograph: 5 Date: 10/11/2024  
Description: Surface scraping activities.  
View: West



Photograph: 6 Date: 10/11/2024  
Description: Surface scraping activities.  
View: West



Photograph: 7 Date: 11/18/2024  
Description: Delineation activities, BH01.  
View: South



Photograph: 8 Date: 11/20/2024  
Description: Patching of BH01.  
View: Southwest




## APPENDIX C

### Lithologic Soil Sampling Logs

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								Sample Name: BH01		Date: 11/18/2024	
								Site Name: Big Eddy Unit DI 29 Battery			
								Incident Number: Napp2424738940			
								Job Number: 03C1558533			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: JB		Method: Core Drill	
Coordinates: 32.565339, -103.777933								Hole Diameter: 2"		Total Depth: 6' bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	<179	189	Y	BH01	0.5	0	CCHE	0-1', CALICHE, tan, moist, some sand, light brown staining, H/C odor.			
M	<179	117	Y		1	1	CL	1'-3', CLAY, moist, dark brown, low plasticity, cohesive, brown staining, mild H/C odor.			
M	<179	38.6	Y		2	2		@2.5', no stain, no odor.			
M	<179	11.4	N		3	3	CCHE	3'-5', CALICHE, beige, moist, some sub-angular gravel, no stain, no odor.			
M	<179	4.8	N	BH01A	4	4					
M	<179	4.1	N		5	5	CL	5'-6', CLAY, moist, brown, low plasticity, cohesive, some gravel, no stain, no odor.			
M	<179	1.8	N	BH01B	6	6					
							TD	Total depth at 6 feet bgs.			
						7					
						8					
						9					
						10					
						11					
						12					



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 21, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BEU DI 29 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/19/24 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 01 0.5 (H247046-01)**

BTEX 8021B		mg / kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03		
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38		
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52		
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88		
Total BTEX	<0.300	0.300	11/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	11/20/2024	ND	432	108	400	10.5		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 92.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.2 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 02 0.5 (H247046-02)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03	
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38	
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52	
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88	
Total BTEX	<0.300	0.300	11/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	11/20/2024	ND	432	108	400	10.5	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 94.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.2 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 03 0.5 (H247046-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03	
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38	
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52	
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88	
Total BTEX	<0.300	0.300	11/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	11/20/2024	ND	432	108	400	10.5	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 94.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 04 0.5 (H247046-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03		
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38		
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52		
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88		
Total BTEX	<0.300	0.300	11/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	11/20/2024	ND	432	108	400	10.5	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 01 0.5 (H247046-05)**

BTEX 8021B		mg/kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.067</b>	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03	
<b>Toluene*</b>	<b>0.286</b>	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38	
<b>Ethylbenzene*</b>	<b>0.182</b>	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52	
<b>Total Xylenes*</b>	<b>1.04</b>	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88	
<b>Total BTEX</b>	<b>1.57</b>	0.300	11/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg	Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	16.0	11/20/2024	ND	432	108	400	10.5	

TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 88.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.7 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 01A 4 (H247046-06)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03	
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38	
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52	
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88	
Total BTEX	<0.300	0.300	11/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/20/2024	ND	432	108	400	10.5	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

181

Company Name: Ensolum, LLC

Project Manager: Ben Delille

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 505 454 0852 Fax #:

Project #: 03015558533 Project Owner: XTO

Project Name: ~~Enbridge Unit 2129~~ Battery

Project Location: 32.56533, -103.77195

Sampler Name: Joshua Boxley

BILL TO

P.O. #:

Company: XTO Energy Inc

Attn: Colton Brown

Address: 3104 E Green St

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE	TIME	Chlorides	TPH	BTEX					
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE										
H247046	1	5501	0.5	1			X			11/19/24	1315	X	X	X					
	2	5502		1							1330								
	3	5503		1							1300								
	4	5504		1							0915								
	5	5505	0.5	1							1055								
	6	BH01A	4	1				X		11/18/24	1225	X	X	X					

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Relinquished By:

Date: 11-19-24

Time: 1405

Received By:

Date: 11-19-24

Time: 1405

Received By:

Date: 11-19-24

Time: 1405

Relinquished By:

Date: 11-19-24

Time: 1405

Received By:

Date: 11-19-24

Time: 1405

Received By:

Date: 11-19-24

Time: 1405

Delivered By: (Circle One)

Observed Temp.: 0.9

Corrected Temp.: 0.3

Sample Condition

Cool Intact

Yes

Checked By: (Initials)

Turnaround Time: 148 hrs

Standard

Bacteria (only)

Sample Condition

Sampler - UPS - Bus - Other:

Observed Temp.: 0.9

Corrected Temp.: 0.3

Sample Condition

Cool Intact

Yes

Checked By: (Initials)

Turnaround Time: 148 hrs

Standard

Bacteria (only)

Sample Condition

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalabsnm.com





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---

November 21, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BEU DI 29 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/19/24 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/19/2024  
Reported: 11/21/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/18/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 01 B 6 (H247047-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2024	ND	1.89	94.7	2.00	9.03	
Toluene*	<0.050	0.050	11/19/2024	ND	1.81	90.4	2.00	9.38	
Ethylbenzene*	<0.050	0.050	11/19/2024	ND	1.81	90.5	2.00	8.52	
Total Xylenes*	<0.150	0.150	11/19/2024	ND	5.34	89.1	6.00	8.88	
Total BTEX	<0.300	0.300	11/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	11/20/2024	ND	432	108	400	10.5		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2024	ND	232	116	200	2.08	
DRO >C10-C28*	<10.0	10.0	11/19/2024	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	11/19/2024	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.1 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

181

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Ben Bellil

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 505 454 0852 Fax #:

Project #: 03015556533 Project Owner: XTO

Project Name: ~~505 Big Eddy Unit~~ 2129 Battery

Project Location: 32.56533, -103.77795

Sampler Name: Joshua Boxley

P.O. #:

Company: XTO Energy Inc

Attn: Colton Brown

Address: 3104 E Green St

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Depth (feet)

H470H7

BH01E

6

G1

(G)RAB OR (C)OMP.  
# CONTAINERS

MATRIX  
GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :

X

DATE

TIME

11/19/24

1240

X

X

X

X

X

X

Chlorides  
TPH  
BTEX

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Relinquished By:

Date: 11-19-24

Received By:

Verbal Result: ☐ Yes ☐ No

Add'l Phone #:

All Results are emailed. Please provide Email address:

Relinquished By:

Date: 11-19-24

Received By:

Verbal Result: ☐ Yes ☐ No

Add'l Phone #:

All Results are emailed. Please provide Email address:

Relinquished By:

Date: 11-19-24

Received By:

Verbal Result: ☐ Yes ☐ No

Add'l Phone #:

All Results are emailed. Please provide Email address:

Delivered By: (Circle One)

Observed Temp.: °C 0.9

Sample Condition Cool Intact ☒ Yes ☐ No

CHECKED BY: (Initials)

Turnaround Time: Standard ☒ Rush ☐

Thermometer ID: #113-#140

Correction Factor: -0.3°C

Bacteria (only) Cool Intact ☒ Yes ☐ No

Sample Condition Observed Temp.: °C

Corrected Temp.: °C

Sampler - UPS - Bus - Other:

Corrected Temp.: °C 0.3

Sample Condition Cool Intact ☒ Yes ☐ No

CHECKED BY: (Initials)

Turnaround Time: Standard ☒ Rush ☐

Thermometer ID: #113-#140

Correction Factor: -0.3°C

Bacteria (only) Cool Intact ☒ Yes ☐ No

Sample Condition Observed Temp.: °C

Corrected Temp.: °C

FORM-006 R 3-2 10/07/12

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 25, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BEU DI 29 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/22/24 12:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM  
BEN BELILL  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/22/2024  
Reported: 11/25/2024  
Project Name: BEU DI 29 BATTERY  
Project Number: 03C1558533  
Project Location: XTO 32.56533,-103.77795

Sampling Date: 11/22/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Alyssa Parras

**Sample ID: CS 01 0.5 (H247173-01)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2024	ND	2.10	105	2.00	2.03	
Toluene*	<0.050	0.050	11/22/2024	ND	2.14	107	2.00	2.41	
Ethylbenzene*	<0.050	0.050	11/22/2024	ND	2.10	105	2.00	2.61	
Total Xylenes*	<0.150	0.150	11/22/2024	ND	6.24	104	6.00	2.90	
Total BTX	<0.300	0.300	11/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	11/25/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2024	ND	187	93.3	200	2.92	
DRO >C10-C28*	<10.0	10.0	11/22/2024	ND	190	95.1	200	4.22	
EXT DRO >C28-C36	<10.0	10.0	11/22/2024	ND					

Surrogate: 1-Chlorooctane 66.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.9 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Mike Snyder".

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1041

Company Name: Ensolum, LLC

Project Manager: Ben Bell

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 949 854 0852

Fax #:

Project #: 030558533

Project Owner: XTO

Project Name: DE 29 Battery

Project Location: 32.56533, -103.71795

Sampler Name: Joshua Boxley

P.O. #:

Company: XTO Energy Inc

Attn: Colton Brown

Address: 3104 E Green St

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

BILL TO

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Depth (feet)

1247173

CS01

0.5

C1

✓

11-22-24

1010

✓

✓

✓

79.5

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :

MATRIX

PRESERV

SAMPLING

Chlorides  
TPH  
BTEX

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Relinquished By:

Date:

Received By:

Time:

Time:

Relinquished By:

Date:

Received By:

Time:

Time:

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition  
Cool Intact  
☐ Yes ☐ No

CHECKED BY:  
(Initials)

Turnaround Time: Standard ☐ Rush ☒

Bacteria (only) Sample Condition  
Cool Intact ☐ Observed Temp. °C  
Corrected Temp. °C

Sampler - UPS - Bus - Other:

Corrected Temp. °C

Sample Condition  
Cool Intact  
☐ Yes ☐ No

Thermometer ID #437140  
Correction Factor -0.5°C -0.5°C

FORM-006 R 3.2 10/07/21

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

QUESTIONS

Action 406778

QUESTIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2424738940
Incident Name	NAPP2424738940 BIG EDDY UNIT DI 29 BATTERY @ 0
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Big Eddy Unit DI 29 Battery
Date Release Discovered	08/28/2024
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure   Pump   Crude Oil   Released: 10 BBL   Recovered: 10 BBL   Lost: 0 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 406778

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 09/03/2024
--	--

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QUESTIONS, Page 3

Action 406778

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	256
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	11/22/2024
On what date will (or did) the final sampling or liner inspection occur	11/22/2024
On what date will (or was) the remediation complete(d)	11/22/2024
What is the estimated surface area (in square feet) that will be reclaimed	1155
What is the estimated volume (in cubic yards) that will be reclaimed	172
What is the estimated surface area (in square feet) that will be remediated	55
What is the estimated volume (in cubic yards) that will be remediated	1

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 406778

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Kailee Smith Title: Regulatory Analyst Email: kailee.smith@exxonmobil.com Date: 11/26/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	



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QUESTIONS, Page 5  
  
Action 406778

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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**Santa Fe, NM 87505**

QUESTIONS, Page 6

Action 406778

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406778
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	402928
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	11/22/2024
What was the (estimated) number of samples that were to be gathered	10
What was the sampling surface area in square feet	2000

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	55
What was the total volume (cubic yards) remediated	1
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1155
What was the total volume (in cubic yards) reclaimed	172
Summarize any additional remediation activities not included by answers (above)	Liner inspection, delineation, and confirmation soil sampling activities were conducted at the Site to address the August 28, 2024, release of crude oil. Laboratory analytical results for all delineation and confirmation soil samples collected indicated that all COC concentrations were compliant with the Closure Criteria. The release is delineated vertically through delineation soil samples collected within BH01, advanced at the location of the tear in the liner. The release is delineated laterally through delineation soil samples SS01 through SS04 collected outside of the release extent. Laboratory analytical results from confirmation soil sample CS01 indicated COC concentrations were below Closure Criteria, indicating the absence of impacted soil. Based on the soil sample analytical results, no further remediation was required. Based on initial response efforts, surface scraping activities, the liner repair following delineation activities, and all soil sample laboratory analytical results compliant with the Closure Criteria, XTO respectfully requests closure for Incident Number nAPP2424738940.

*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 (in .pdf format) 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.*

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.

I hereby agree and sign off to the above statement	Name: Kailee Smith Title: Regulatory Analyst Email: kailee.smith@exxonmobil.com Date: 11/26/2024
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Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 7  
  
Action 406778

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS  
  
Action 406778

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  406778
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete".	12/13/2024