



January 26, 2026

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan
PLU South Frac Pit
Incident Number NAPP2408034878
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Remediation Work Plan (Work Plan)* to document delineation, excavation, and soil sampling activities performed at the PLU South Frac Pit (Site) and propose additional delineation activities. The purpose of excavation and soil sampling activities was to confirm the presence or absence of impacted soil from a release of produced water at the Site. The following *Work Plan* describes remediation activities completed to date and proposes additional delineation to address the most recent denial.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit J, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.098047°, -103.866983°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On March 8, 2024, a pump failure resulted in the release of 12 barrels (bbls) of produced water onto the pad surface. A vacuum truck was dispatched and approximately 11 bbls of released fluids were recovered. XTO submitted a Notification of Release (NOR) and an Initial C-141 Application (C-141) on March 20, 2024. The release was assigned Incident Number nAPP2408034878.

On November 5, 2025, a *Closure Request* was submitted to the NMOCD documenting delineation, excavation, and soil sampling activities. On December 2, 2025, the NMOCD denied the *Closure Request* stating:

The Remediation Closure Report is Denied. Any area designated as a "Release Extent" will need to have 5-point composite confirmation soil samples conducted within the entire boundary of that area. The area designated as "Infrastructure" which contains the "Point of Release" will need to be fully delineated.

On December 31, 2025, a *Closure Request* was submitted to the NMOCD documenting additional soil sampling in response to the above denial. On January 13, 2026, the NMOCD denied the *Closure Request* stating:

XTO Energy, Inc
Remediation Work Plan
PLU South Frac Pit

The Remediation Closure Report is Denied. If the release cannot be horizontally delineated before it goes underneath the containment, a deferral request will need to be submitted. If horizontal delineation samples on pad eventually reach a mechanical barrier, (such as pipeline, equipment, or battery) sample(s) should be obtained as near as possible on the linear opposite side of said barrier and as close as possible to barrier.

The below report reiterates the remediation activities previously included in the *Closure Request* and proposes additional soil sampling activities in response to the NMOCD denial.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess 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. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on data from a soil boring drilled to investigate regional groundwater depth. In June 2025, a soil boring permitted by New Mexico Office of the State Engineer (OSE) (C-04976) was completed approximately 0.1 miles northwest of the Site. Soil boring C-04976 was drilled to a depth of 105 feet bgs with no groundwater encountered within the boring following a 72-hour waiting period. The Well Record & Log and the Plugging Record are included in Appendix A.

The closest continuously flowing or significant watercourse is an intermittent dry wash, located approximately 1,425 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area).

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)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On August 2, 2024, Ensolum personnel conducted a Site assessment to evaluate the release extent based on information provided on the C-141, information provided by XTO, and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Four delineation soil samples (SS01 through SS04) were collected at a depth of 0.5 feet bgs outside of the release extent. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach®

XTO Energy, Inc
Remediation Work Plan
PLU South Frac Pit

chloride QuanTab® test strips. Photographic documentation was completed during the Site assessment, and a photographic log is included in Appendix B.

On August 12, 2024, Ensolum returned to the Site to oversee delineation activities. A borehole (BH01) was advanced via hand auger to investigate the vertical extent of the release. The borehole was advanced to a terminal depth of 2 feet bgs. Discrete soil samples were collected from the borehole at depths ranging from 0.5 feet to 2 feet bgs. All delineation soil samples were field screened by the same methods as stated above. A photographic log of delineation activities is included in Appendix B. Field screening results and observations for the borehole were logged on a lithologic/soil sampling log, which is included as Appendix C. The soil sample locations were mapped utilizing a handheld GPS unit and the delineation soil sample locations 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-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standards Method SM4500.

Laboratory analytical results for delineation soil samples SS01 through SS04 indicated all COCs were in compliance with Closure Criteria and the strictest Table I Closure Criteria, successfully defining the lateral extent of the release. Laboratory analytical results for the delineation borehole, BH01, collected at 0.5 feet bgs, indicated chloride concentrations were in compliance with Closure Criteria but exceeded the reclamation requirement. Laboratory analytical results for the terminal depth of 2 feet bgs indicated all COCs were in compliance with Closure Criteria and the strictest Table I Closure Criteria, successfully defining the vertical extent of the release.

EXCAVATION AND SOIL SAMPLING ACTIVITIES

Between October 25 and November 11, 2024, Ensolum personnel were onsite to oversee excavation activities. Excavation activities were performed by the use of hydrovacuum trucks and heavy equipment. To direct excavation activities, soil was field screened by the above methods. Once field screening indicated impacted soil was adequately removed, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil sample FS01 was collected from the floor of the excavation at a depth of 3 feet bgs. Confirmation soil sample SW01 was collected from the sidewall of the excavation at depths ranging from the ground surface to 3 feet bgs. Confirmation soil samples CS01 through CS11 were collected from areas not excavated at a depth of 0.5 feet bgs. All soil samples were collected, handled, and analyzed as described above at Cardinal in Hobbs, New Mexico. The confirmation soil sample locations were mapped utilizing a handheld GPS and are depicted on Figure 3. Photographic documentation of the excavation activities and final excavation extent is provided in Appendix B.

The final excavation extent measured approximately 196 square feet. A total of approximately 22 cubic yards of waste-containing soil were removed during the excavation activities. The waste containing soil was transported and disposed of at the R360 Disposal Facility in Hobbs, New Mexico. The final excavation was backfilled with material purchased locally and was recontoured to match pre-existing Site conditions.

XTO Energy, Inc
Remediation Work Plan
PLU South Frac Pit

ADDITIONAL SOIL SAMPLING ACTIVITIES

On December 12, 2025, Ensolum personnel returned to the Site to collect additional soil samples in the areas identified as infrastructure. The northernmost infrastructure area includes a cement barrier and an 18-inch pipeline transitioning from subsurface to an elevated surface line. The southernmost infrastructure area includes an 8-inch polyline laying on the pad surface. These areas were composite sampled every 200 square feet. Confirmation soil samples CS12 through CS15 were collected at a depth of 0.5 feet bgs. In addition, one grab delineation soil sample, SS05, was collected for additional lateral definition. All soil samples were collected, handled, and analyzed as described above at Cardinal in Hobbs, New Mexico. The confirmation soil sample locations were mapped utilizing a handheld GPS and are depicted on Figure 3. The delineation soil sample locations are depicted on Figure 2. Photographic documentation of the additional soil sampling activities is provided in Appendix B.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all final confirmation and delineation soil samples indicated all COCs were in compliance with Closure Criteria. The laboratory analytical results are summarized in Table 1, and the complete laboratory analytical reports are included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

The NMOCD is requesting additional horizontal delineation between the release extent and mechanical barrier(s). As such, XTO proposes to complete the following remediation activities:

- Collection of one delineation soil sample immediately south of the lined containment that is present on the northside of the release extent. The sample will be collected from 0.5 feet bgs between the release extent and mechanical barrier.
- In the event the delineation soil sample does not meet reclamation requirements, an additional delineation soil sample will be collected on the linear opposite side of lined containment, as requested by the NMOCD, to further delineate the waste-containing soil left in place to be addressed during pad abandonment.
- The proposed delineation soil samples are identified on Figure 4.
- Due to all soil samples indicating all COCs are in compliance with Closure Criteria, a *Closure Request* will be submitted following delineation activities unless the additional delineation soil samples indicate COC concentrations exceed Closure Criteria.

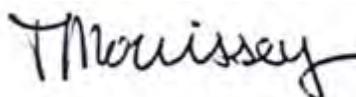
XTO will complete the soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD.

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

Sincerely,
Ensolum, LLC



Tracy Hillard
Project Engineer



Tacoma Morrissey
Associate Principal

XTO Energy, Inc
Remediation Work Plan
PLU South Frac Pit

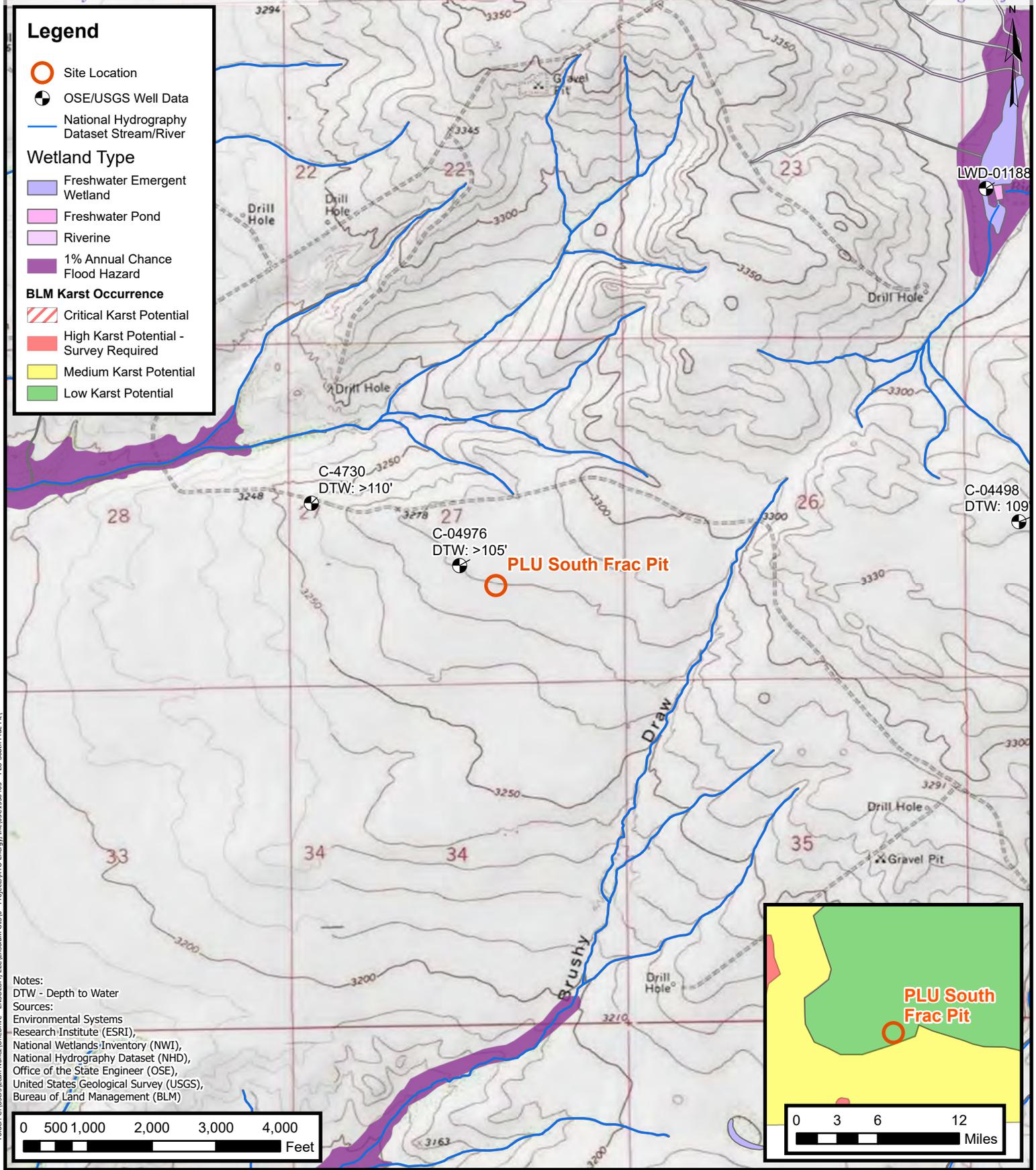
cc: Robert Woodall, XTO
Richard Kotzur, XTO
BLM

Appendices:

Figure 1 Site Receptor Map
Figure 2 Delineation Soil Sample Locations
Figure 3 Confirmation Soil Sample Locations
Figure 4 Proposed Delineation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records
Appendix B Photographic Log
Appendix C Lithologic/Soil Sampling Log
Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E NMOCD Correspondence



FIGURES

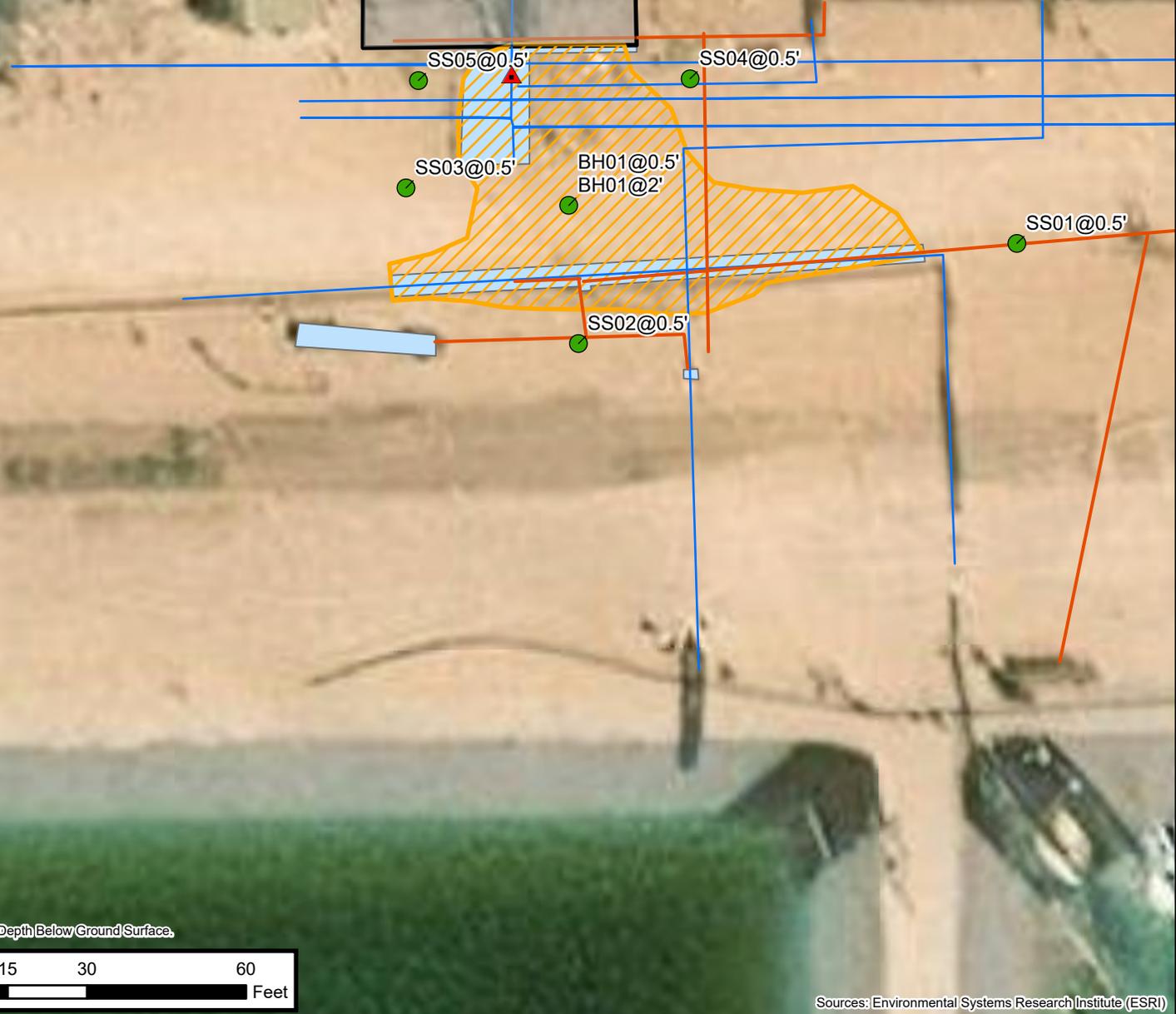


Site Receptor Map
XTO Energy, Inc
PLU South Frac Pit
Incident Number: NAPP2408034878
Unit J, Section 27, T 25S, R 30E
Eddy County, New Mexico

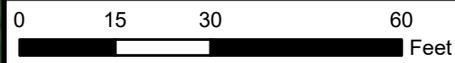
FIGURE
1

Legend

- Electric Utility Line Water
- Utility Line
- Delineation Soil Sample
- Location in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- Release Extent
- Containment Area
- Production Equipment



Notes:
 Sample ID @ Depth Below Ground/Surface.



Sources: Environmental Systems Research Institute (ESRI)

Delineation Soil Sample Locations

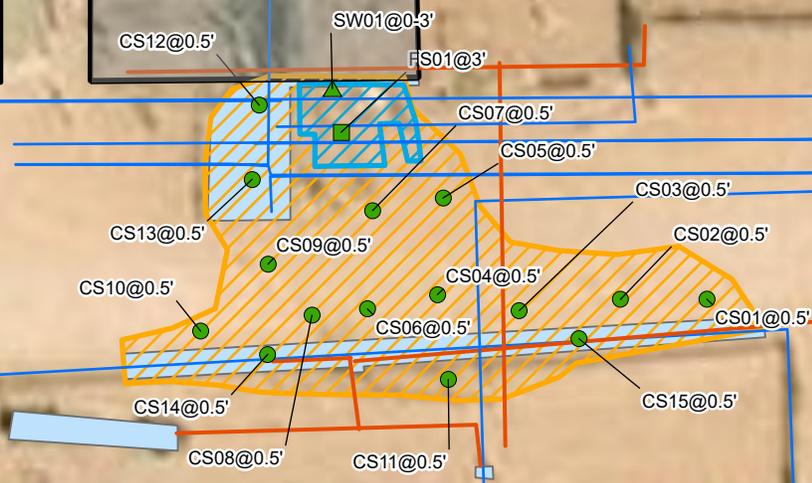
XTO Energy, Inc
 PLU South Frac Pit
 Incident Number: nAPP2408034878
 Unit J, Sec 27, T25S, R30E
 Eddy County, New Mexico

FIGURE
2

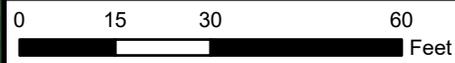


Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Confirmation Surface Sample in Compliance with Closure Criteria
- Electric Utility Line
- Water Utility Line
- Lined Containment Area
- Production Equipment
- Release Extent
- Excavation Extent



Notes:
 Sample ID @ Depth Below Ground/Surface.



Sources: Environmental Systems Research Institute (ESRI)



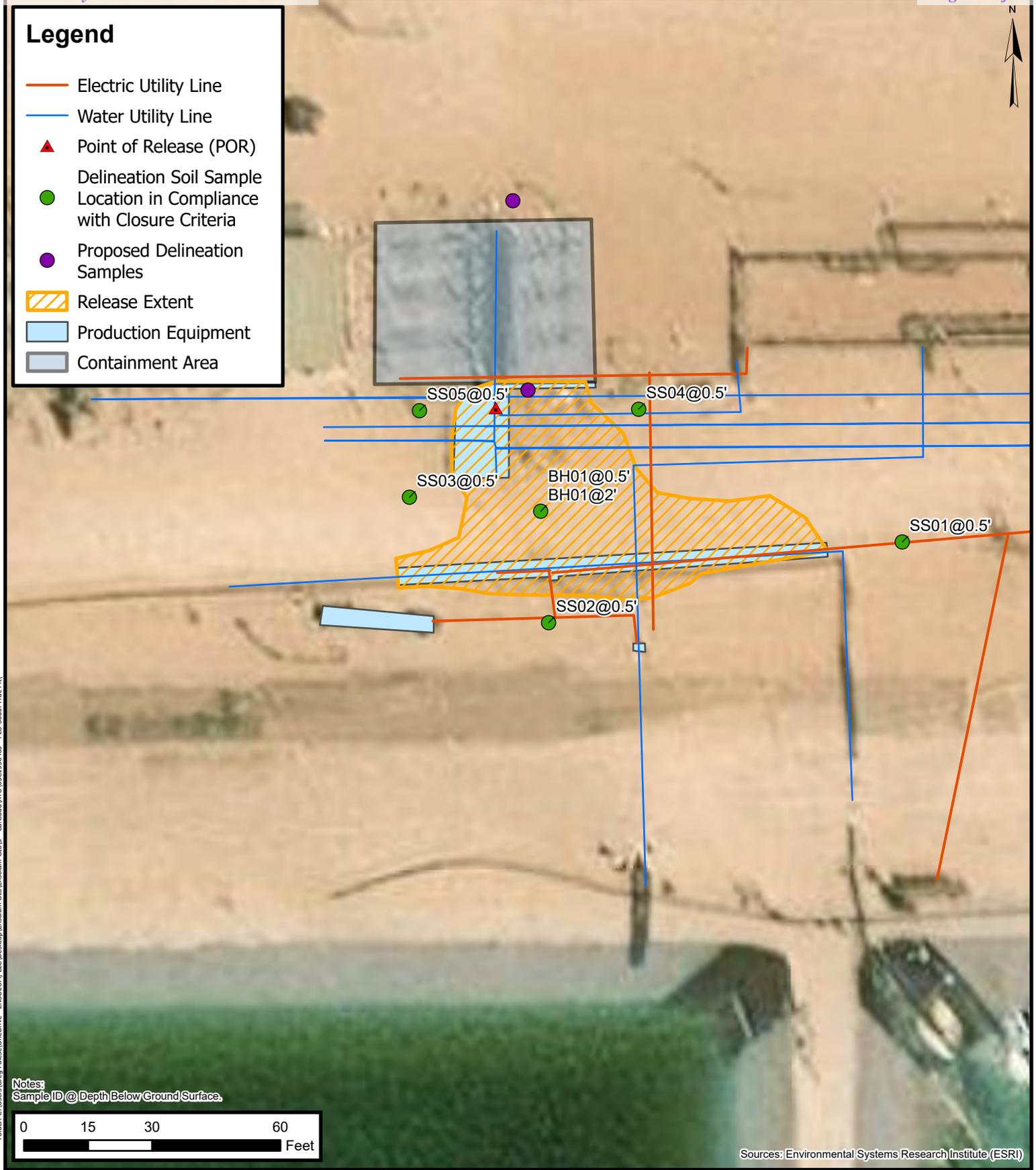
Confirmation Soil Sampling Locations

XTO Energy, Inc
 PLU South Frac Pit
 Incident Number: nAPP2408034878
 Unit J, Sec 27, T25S, R30E
 Eddy County, New Mexico

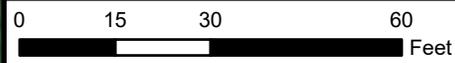
FIGURE
3

Legend

- Electric Utility Line
- Water Utility Line
- ▲ Point of Release (POR)
- Delineation Soil Sample Location in Compliance with Closure Criteria
- Proposed Delineation Samples
- Release Extent
- Production Equipment
- Containment Area



Notes:
 Sample ID @ Depth Below Ground/Surface.



Sources: Environmental Systems Research Institute (ESRI)

Proposed Delineation Soil Samples

XTO Energy, Inc
 PLU South Frac Pit
 Incident Number: nAPP2408034878
 Unit J, Sec 27, T25S, R30E
 Eddy County, New Mexico

FIGURE
4





TABLES



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU South Frac Pit
XTO Energy, Inc
Eddy 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	1,000	2,500	20,000
Delineation Soil Samples										
SS01	08/02/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS02	08/02/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS03	08/02/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS04	08/02/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS05	12/12/2025	0.5	<0.00200	<0.00399	<50.1	<50.1	<50.1	<50.1	<50.1	51.6
BH01	08/12/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,040
BH01A	08/12/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
Confirmation Soil Samples										
CS01	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,000
CS02	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,840
CS03	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
CS04	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,160
CS05	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,760
CS06	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,320
CS07	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
CS08	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,640
CS09	11/11/2024	0.5	<0.050	<0.300	<10.0	36.9	<10.0	36.9	36.9	4,280
CS10	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,640
CS11	11/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	752
CS12	12/12/2025	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	903
CS13	12/12/2025	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	8,000
CS14	12/12/2025	0.5	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	424
CS15	12/12/2025	0.5	<0.00200	<0.00400	<50.4	<50.4	<50.4	<50.4	<50.4	172



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU South Frac Pit
XTO Energy, Inc
Eddy 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	1,000	2,500	20,000
FS01	11/11/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	720
SW01	11/11/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,400

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



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD-1		WELL TAG ID NO.		OSE FILE NO(S) C-04976		
	WELL OWNER NAME(S) XTO Permian Operating				PHONE (OPTIONAL)		
	WELL OWNER MAILING ADDRESS 3104 E greene st				CITY Carlsbad	STATE NM	ZIP 88220
	WELL LOCATION (FROM GPS)	DEGREES -103.868700		MINUTES	SECONDS	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84	
		LATITUDE	LONGITUDE		N		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE							

2. DRILLING & CASING INFORMATION	LICENSE NO. 1839	NAME OF LICENSED DRILLER Boyd Coffey			NAME OF WELL DRILLING COMPANY Coffey Drilling			
	DRILLING STARTED 6-19-2025	DRILLING ENDED 6-19-2025	DEPTH OF COMPLETED WELL (FT) 105	BORE HOLE DEPTH (FT) 105	DEPTH WATER FIRST ENCOUNTERED (FT) NA			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN *add Centralizer info below <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) NA	DATE STATIC MEASURED 6-21-2025		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:					CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>		
	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	20	6.75	PVC	Thread	2	Sch 40	
	20	105	6.25	PVC	Thread	2	Sch 40	0.032

3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL <i>*(if using Centralizers for Artesian wells- indicate the spacing below)</i>	AMOUNT (cubic feet)	METHOD OF PLACEMENT
	FROM	TO				
	0	20	6.75	3/8 Hole Plug	5	Pour
	20	105	6	back fill with cuttings	18	Pour

FOR OSE INTERNAL USE				WR-20 WELL RECORD & LOG (Version 09/22/2022)			
FILE NO.		POD NO.		TRN NO.			
LOCATION				WELL TAG ID NO.		PAGE 1 OF 2	



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-04976

Well owner: XTO permian Operating Phone No.: _____

Mailing address: 3104 E greene st

City: Calrsbad State: NM Zip code: 88220

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Coffey drilling

2) New Mexico Well Driller License No.: 1839 Expiration Date: Aprli 2026

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s):
Boyd Coffey

4) Date well plugging began: 6-25-2025 Date well plugging concluded: 6-25-2025

5) GPS Well Location: Latitude: -103.868790 deg, _____ min, _____ sec
Longitude: 32.098928 deg, _____ min, _____ sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105 ft below ground level (bgl),
by the following manner: _____

7) Static water level measured at initiation of plugging: dry ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 5-6-2025

9) Were all plugging activities consistent with an approved plugging plan? yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):



APPENDIX B
Photographic Log



Photographic Log

XTO Energy, Inc
PLU South Frac Pit
nAPP2408034878



Photograph: 1 Date: 3/8/2024
Description: Initial release pooling
View: East



Photograph: 2 Date: 3/8/2025
Description: Point of release
View: North



Photograph: 3 Date: 8/2/2024
Description: Delineation activities
View: Northeast



Photograph: 4 Date: 8/12/2024
Description: Delineation activities
View: East



Photographic Log

XTO Energy, Inc
PLU South Frac Pit
nAPP2408034878



Photograph: 5 Date: 11/11/2024
Description: Final excavation extent; near FS01
View: East

Photograph: 6 Date: 11/11/2024
Description: Final excavation extent; near FS01
View: Northeast



Photograph: 7 Date: 11/11/2024
Description: Confirmation sampling; near CS10
View: Northeast

Photograph: 8 Date: 1/16/2025
Description: Backfilled excavation
View: Northwest



APPENDIX C

Lithologic Soil Sampling Logs

					Sample Name: BH01		Date: 8/12/24	
					Site Name: PLU South Frac Pit			
					Incident Number: nAPP2408034878			
					Job Number: 03C1558485			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: JD		Method: Hand Auger	
Coordinates: 32.098047, -103.866983					Hole Diameter: 4"		Total Depth: 2'	
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. A 40% correction factor was included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	6,227	0.0	N	BH01	0.5	0	CCHE	(0-1') CALICHE, tan, fine grained
D	728	0.0	N		1	1	SP	(1-2') SAND, Dark brown, very fine grained, poorly graded
D	386	0.0	N	BH01A	2	2		
						Total Depth @ 2 feet bgs		



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

August 12, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU SOUTH FRAC PIT

Enclosed are the results of analyses for samples received by the laboratory on 08/06/24 13:45.

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.

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".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: SS 01 0.5' (H244713-01)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/08/2024	ND	432	108	400	3.77	

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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 73.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: SS 02 0.5' (H244713-02)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/08/2024	ND	432	108	400	3.77	

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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 75.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.4 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: SS 03 0.5' (H244713-03)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/08/2024	ND	432	108	400	3.77	

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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 64.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.9 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: SS 04 0.5' (H244713-04)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/08/2024	ND	432	108	400	3.77	

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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 72.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.2 % 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

Notes and Definitions

- BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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

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

Celey D. Keene, Lab Director/Quality Manager



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

August 21, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU SOUTH FRAC PIT

Enclosed are the results of analyses for samples received by the laboratory on 08/15/24 13:05.

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.

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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/15/2024	Sampling Date:	08/12/2024
Reported:	08/21/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.098047-103.866983		

Sample ID: BH 01 .5' (H244960-01)

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	08/17/2024	ND	2.12	106	2.00	2.67	
Toluene*	<0.050	0.050	08/17/2024	ND	2.14	107	2.00	3.11	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	2.13	107	2.00	3.82	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	6.63	110	6.00	3.61	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5040	16.0	08/19/2024	ND	416	104	400	7.41	

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	08/16/2024	ND	219	110	200	9.36	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	209	104	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 87.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/15/2024	Sampling Date:	08/12/2024
Reported:	08/21/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.098047-103.866983		

Sample ID: BH 01A 2' (H244960-02)

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	08/17/2024	ND	2.12	106	2.00	2.67	
Toluene*	<0.050	0.050	08/17/2024	ND	2.14	107	2.00	3.11	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	2.13	107	2.00	3.82	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	6.63	110	6.00	3.61	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	08/19/2024	ND	416	104	400	7.41	

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	08/16/2024	ND	219	110	200	9.36	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	209	104	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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

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

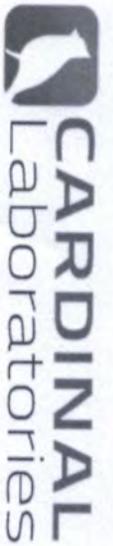
Cardinal Laboratories

*=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

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

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC		P.O. #:	
Project Manager: Tracy Hillard		Company: XTO Energy Inc.	
Address: 3122 National Parks Hwy		Attn: Amy Ruth	
City: Carlsbad	State: NM Zip: 88220	Address: 3104 E. Green St.	
Phone #: 575-937-3906	Fax #: _____	City: Carlsbad	
Project #: 03C1558485	Project Owner: XTO	State: NM Zip: 88220	
Project Name: PLU South Frac Pit		Phone #:	
Project Location: 32.098047, -103.866983		Fax #:	
Sampler Name: Jesse Dorman			

Lab I.D.	Sample I.D.	Sample Depth (feet)	FOR LAB USE ONLY		DATE	TIME	BTEX	TPH	CHLORIDE
			MATRIX	PRESERV					
H244000	Shel Bho1A	-5'	(G)RAB OR (C)OMP.	# CONTAINERS	8/12/24	1300			
			GROUNDWATER						
			WASTEWATER						
			SOIL						
			OIL						
			SLUDGE						
			OTHER :						
			ACID/BASE:						
			ICE / COOL						
			OTHER :						

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 the client for the service. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: _____ Date: 8/15/24
 Received By: _____ Date: 8/15/24

Delivered By: (Circle One) _____
 Sampler - UPS - Bus - Other: _____
 Observed Temp. °C: 39.6
 Corrected Temp. °C: 33.1

Sample Condition: Cool Intact
 Checked By: (Initials) JD
 Turnaround Time: Standard Rush
 Bacteria (only) Sample Condition
 Cool Intact Observed Temp. °C
 Corrected Temp. °C



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

November 14, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU SOUTH FRAC PIT

Enclosed are the results of analyses for samples received by the laboratory on 11/12/24 14:00.

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.

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 style and is positioned above a light-colored rectangular box.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: FS 01 3 (H246881-01)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	QR-03
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	QR-03
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	QR-03
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	QR-03
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	720	16.0	11/13/2024	ND	400	100	400	3.92	

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	11/13/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: SW 01 0-3 (H246881-02)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	11/13/2024	ND	400	100	400	3.92	

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	11/13/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 01 0.5 (H246881-03)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	11/13/2024	ND	400	100	400	3.92	

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	11/13/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 02 0.5 (H246881-04)

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	11/14/2024	ND	2.00	99.9	2.00	12.6		
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9		
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34		
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50		
Total BTEX	<0.300	0.300	11/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3840	16.0	11/13/2024	ND	400	100	400	3.92		

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	11/13/2024	ND	182	91.2	200	1.57		
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63		
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND						

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 03 0.5 (H246881-05)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	11/13/2024	ND	400	100	400	3.92	

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	11/14/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/14/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/14/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 04 0.5 (H246881-06)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4160	16.0	11/13/2024	ND	416	104	400	3.77	QM-07

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	11/14/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/14/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/14/2024	ND					

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.1 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 05 0.5 (H246881-07)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	11/13/2024	ND	416	104	400	3.77	

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	11/14/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/14/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/14/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.7 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 06 0.5 (H246881-08)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	11/13/2024	ND	416	104	400	3.77	

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	11/13/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 133 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 07 0.5 (H246881-09)

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	11/14/2024	ND	2.00	99.9	2.00	12.6		
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9		
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34		
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50		
Total BTEX	<0.300	0.300	11/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4800	16.0	11/13/2024	ND	416	104	400	3.77		

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	11/14/2024	ND	182	91.2	200	1.57		
DRO >C10-C28*	<10.0	10.0	11/14/2024	ND	170	85.0	200	7.63		
EXT DRO >C28-C36	<10.0	10.0	11/14/2024	ND						

Surrogate: 1-Chlorooctane 95.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.1 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 08 0.5 (H246881-10)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	11/13/2024	ND	416	104	400	3.77	

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	11/13/2024	ND	182	91.2	200	1.57	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	170	85.0	200	7.63	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 129 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 09 0.5 (H246881-11)

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	11/14/2024	ND	2.00	99.9	2.00	12.6		
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9		
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34		
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50		
Total BTEX	<0.300	0.300	11/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4280	16.0	11/13/2024	ND	416	104	400	3.77		

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	11/13/2024	ND	191	95.5	200	0.855		
DRO >C10-C28*	36.9	10.0	11/13/2024	ND	185	92.4	200	0.221		
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND						

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 10 0.5 (H246881-12)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	11/13/2024	ND	416	104	400	3.77	

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	11/13/2024	ND	191	95.5	200	0.855	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	185	92.4	200	0.221	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/12/2024	Sampling Date:	11/11/2024
Reported:	11/14/2024	Sampling Type:	Soil
Project Name:	PLU SOUTH FRAC PIT	Sampling Condition:	Cool & Intact
Project Number:	03C1558485	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.098047-103.866983		

Sample ID: CS 11 0.5 (H246881-13)

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	11/14/2024	ND	2.00	99.9	2.00	12.6	
Toluene*	<0.050	0.050	11/14/2024	ND	1.93	96.5	2.00	10.9	
Ethylbenzene*	<0.050	0.050	11/14/2024	ND	2.02	101	2.00	9.34	
Total Xylenes*	<0.150	0.150	11/14/2024	ND	5.98	99.7	6.00	8.50	
Total BTEX	<0.300	0.300	11/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	11/13/2024	ND	416	104	400	3.77	

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	11/13/2024	ND	191	95.5	200	0.855	
DRO >C10-C28*	<10.0	10.0	11/13/2024	ND	185	92.4	200	0.221	
EXT DRO >C28-C36	<10.0	10.0	11/13/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.6 % 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

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

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

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

pg. 1

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Tracy Hillard
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 575-937-3906 Fax #:
 Project #: 03C1556485 Project Owner:
 Project Name: PLU South Frac Pit
 Project Location: 32 098047, -103,866963
 Sampler Name: Mario Sarkis

P.O. #:
 Company: XTO Energy
 Attn: Cotton Brown
 Address: 3104 E. Green St.
 City: Carlsbad
 State: NM Zip: 88220
 Phone #: 575-988-
 Fax #:

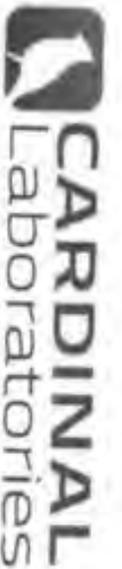
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER			
12246881	F501	3		1						11/24	1305	BTEX	
	SW01	0-3		1						11/24	1310	TPH	
	S501	0.5		1						11/24	1340	Chlorides	
	S502	0.5		1						11/24	1341		
	S503	0.5		1						11/24	1343		
	S504	0.5		1						11/24	1345		
	S505	0.5		1						11/24	1346		
	S506	0.5		1						11/24	1348		
	S507	0.5		1						11/24	1349		
	S508	0.5		1						11/24	1351		

PLEASE NOTE: Laboratory adding and owner's representative for any state pending samples should be notified by email to the analyst prior to the start of the sampling. All data, including those for compliance and any other state pending samples shall be delivered within 10 business days of sampling. If you are unable to provide samples, please notify the analyst in writing and request a refund. If you are unable to provide samples, please notify the analyst in writing and request a refund. If you are unable to provide samples, please notify the analyst in writing and request a refund.

Relinquished By: *[Signature]* Date: 11-12-24
 Received By: *[Signature]* Date: 11-12-24
 Time: 1400

Turnaround Time: Standard Bacteria (only) Sample Condition
 Standard (rush) Bacteria (only) Sample Condition
 Cool Intact Observed Temp. °C
 Corrected Temp. °C

Delivered By: (Circle One) Corrected Temp. °C: 23
 Sampler - UPS - Bulk - Other: Corrected Temp. °C: 1.7
 Sample Condition: Cool Intact Bacteria (only) Sample Condition
 Checked By: *[Signature]* (Initials)
 Remarks: Incident #: RAAPP2408094878
 Cool Center: 1081711001
 Turnaround Time: Standard Bacteria (only) Sample Condition
 Standard (rush) Bacteria (only) Sample Condition
 Cool Intact Observed Temp. °C
 Corrected Temp. °C



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Tracy Hillard
 Address: 3122 National Parks Hwy
 City: Carlsbad
 State: NM Zip: 88220
 Phone #: 575-937-3908 Fax #:
 Project #: 03C1958485 Project Owner:
 Project Name: PLU South Frac Pit
 Project Location: 32.098047, -103.866983
 Sampler Name: Mario Sarkis

P.O. #:
 Company: XTO Energy
 Attn: Colton Brown
 Address: 3104 E. Green St
 City: Carlsbad
 State: NM Zip: 88220
 Phone #: 575-998-
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							PRESERV	SAMPLING	DATE	TIME	BTEX	TPH	Chlorides
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE							
H244881																		
	11 CS09	0.5	C	1										11/13/18	1852	✓	✓	✓
	12 CS10	0.5	C	1										11/13/18	1853	✓	✓	✓
	13 CS11	0.5	C	1										11/13/18	1855	✓	✓	✓

PLEASE NOTE: Safety and Clean-up: Operator safety and health measures should be taken at all times. All personnel should be trained in the use of the equipment and procedures. All personnel should be trained in the use of the equipment and procedures. All personnel should be trained in the use of the equipment and procedures.

Relinquished By: *[Signature]*
 Date: 1/22/24
 Received By: *[Signature]*
 Date: 1/22/24

Verbal Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 tracy.hillard@ensolum.com / kit@ensolum.com / tracy@ensolum.com / tracy@ensolum.com

Delivered By: (Circle One) UPS Bus Other
 Sample Condition: Intact Yes No
 Checked By: *[Signature]*
 Turnaround Time: Standard Rush
 Bacteria (only) Sample Condition: Observed Temp: °C
 Corrected Temp: °C

† Cardinal cannot accept verbal changes. Please email changes to caley.keefe@cardinallabstnm.com



Environment Testing

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Tracy Hillard
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 12/22/2025 1:33:03 PM

JOB DESCRIPTION

PLU South Frac Pit Spills
03C1558485

JOB NUMBER

890-9226-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
12/22/2025 1:33:03 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Laboratory Job ID: 890-9226-1
SDG: 03C1558485

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	10
QC Sample Results	11
QC Association Summary	15
Lab Chronicle	17
Certification Summary	19
Method Summary	20
Sample Summary	21
Chain of Custody	22
Receipt Checklists	24

Definitions/Glossary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: PLU South Frac Pit Spills

Job ID: 890-9226-1

Job ID: 890-9226-1

Eurofins Carlsbad

Job Narrative 890-9226-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 12/12/2025 1:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: CS12 (890-9226-1), CS13 (890-9226-2), CS14 (890-9226-3) and CS15 (890-9226-4).

GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-126678 and 880-126851 and analytical batch 880-126939 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: CS12 (890-9226-1), CS13 (890-9226-2) and CS15 (890-9226-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-126678 and analytical batch 880-126939 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-126639 and analytical batch 880-127324 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Client Sample ID: CS12

Lab Sample ID: 890-9226-1

Date Collected: 12/12/25 09:30

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 06:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 06:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 06:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/15/25 12:36	12/18/25 06:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 06:49	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/15/25 12:36	12/18/25 06:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	12/15/25 12:36	12/18/25 06:49	1
1,4-Difluorobenzene (Surr)	113		70 - 130	12/15/25 12:36	12/18/25 06:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/18/25 06:49	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/20/25 13:23	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		12/15/25 09:44	12/20/25 13:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		12/15/25 09:44	12/20/25 13:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/15/25 09:44	12/20/25 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	12/15/25 09:44	12/20/25 13:23	1
o-Terphenyl	107		70 - 130	12/15/25 09:44	12/20/25 13:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	903		10.1	mg/Kg			12/17/25 01:45	1

Client Sample ID: CS13

Lab Sample ID: 890-9226-2

Date Collected: 12/12/25 09:35

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/15/25 12:36	12/18/25 07:10	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/15/25 12:36	12/18/25 07:10	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/15/25 12:36	12/18/25 07:10	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/15/25 12:36	12/18/25 07:10	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/15/25 12:36	12/18/25 07:10	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/15/25 12:36	12/18/25 07:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130	12/15/25 12:36	12/18/25 07:10	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Client Sample ID: CS13

Lab Sample ID: 890-9226-2

Date Collected: 12/12/25 09:35

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130	12/15/25 12:36	12/18/25 07:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/18/25 07:10	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/20/25 13:38	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		12/15/25 09:44	12/20/25 13:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		12/15/25 09:44	12/20/25 13:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/25 09:44	12/20/25 13:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	12/15/25 09:44	12/20/25 13:38	1
o-Terphenyl	107		70 - 130	12/15/25 09:44	12/20/25 13:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	800		100	mg/Kg			12/17/25 01:49	10

Client Sample ID: CS14

Lab Sample ID: 890-9226-3

Date Collected: 12/12/25 09:40

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/15/25 12:36	12/18/25 07:30	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/15/25 12:36	12/18/25 07:30	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/15/25 12:36	12/18/25 07:30	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/15/25 12:36	12/18/25 07:30	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/15/25 12:36	12/18/25 07:30	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/15/25 12:36	12/18/25 07:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	12/15/25 12:36	12/18/25 07:30	1
1,4-Difluorobenzene (Surr)	105		70 - 130	12/15/25 12:36	12/18/25 07:30	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/18/25 07:30	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			12/20/25 13:51	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Client Sample ID: CS14

Lab Sample ID: 890-9226-3

Date Collected: 12/12/25 09:40

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U *1	50.5	mg/Kg		12/15/25 09:44	12/20/25 13:51	1
Diesel Range Organics (Over C10-C28)	<50.5	U *1	50.5	mg/Kg		12/15/25 09:44	12/20/25 13:51	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/15/25 09:44	12/20/25 13:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			12/15/25 09:44	12/20/25 13:51	1
o-Terphenyl	88		70 - 130			12/15/25 09:44	12/20/25 13:51	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	424		10.1	mg/Kg			12/17/25 01:54	1

Client Sample ID: CS15

Lab Sample ID: 890-9226-4

Date Collected: 12/12/25 09:45

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/25 12:36	12/18/25 07:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130			12/15/25 12:36	12/18/25 07:51	1
1,4-Difluorobenzene (Surr)	108		70 - 130			12/15/25 12:36	12/18/25 07:51	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			12/18/25 07:51	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			12/20/25 14:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U *1	50.4	mg/Kg		12/15/25 09:44	12/20/25 14:05	1
Diesel Range Organics (Over C10-C28)	<50.4	U *1	50.4	mg/Kg		12/15/25 09:44	12/20/25 14:05	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/15/25 09:44	12/20/25 14:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			12/15/25 09:44	12/20/25 14:05	1
o-Terphenyl	106		70 - 130			12/15/25 09:44	12/20/25 14:05	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Client Sample ID: CS15

Lab Sample ID: 890-9226-4

Date Collected: 12/12/25 09:45

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	172		9.92	mg/Kg			12/17/25 01:59	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
890-9211-A-1-C MS	Matrix Spike	124	112
890-9211-A-1-D MSD	Matrix Spike Duplicate	104	104
890-9226-1	CS12	133 S1+	113
890-9226-2	CS13	138 S1+	102
890-9226-3	CS14	127	105
890-9226-4	CS15	144 S1+	108
LCS 880-126678/1-A	Lab Control Sample	107	102
LCSD 880-126678/2-A	Lab Control Sample Dup	104	93
MB 880-126678/5-A	Method Blank	191 S1+	112
MB 880-126851/5-A	Method Blank	150 S1+	82

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-9225-A-1-B MS	Matrix Spike	116	101
890-9225-A-1-C MSD	Matrix Spike Duplicate	117	103
890-9226-1	CS12	107	107
890-9226-2	CS13	108	107
890-9226-3	CS14	90	88
890-9226-4	CS15	107	106
LCS 880-126639/2-A	Lab Control Sample	108	101
LCSD 880-126639/3-A	Lab Control Sample Dup	108	98
MB 880-126639/1-A	Method Blank	93	87

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-126678/5-A
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/17/25 23:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/17/25 23:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/17/25 23:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/25 12:36	12/17/25 23:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/25 12:36	12/17/25 23:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/25 12:36	12/17/25 23:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	191	S1+	70 - 130	12/15/25 12:36	12/17/25 23:24	1
1,4-Difluorobenzene (Surr)	112		70 - 130	12/15/25 12:36	12/17/25 23:24	1

Lab Sample ID: LCS 880-126678/1-A
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1141		mg/Kg		114	70 - 130
Toluene	0.100	0.1050		mg/Kg		105	70 - 130
Ethylbenzene	0.100	0.1088		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2053		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1069		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-126678/2-A
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1061		mg/Kg		106	70 - 130	7	35
Toluene	0.100	0.1014		mg/Kg		101	70 - 130	4	35
Ethylbenzene	0.100	0.1108		mg/Kg		111	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2104		mg/Kg		105	70 - 130	2	35
o-Xylene	0.100	0.1016		mg/Kg		102	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: 890-9211-A-1-C MS
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.07474		mg/Kg		75	70 - 130
Toluene	<0.00200	U	0.100	0.07116		mg/Kg		71	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-9211-A-1-C MS
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Ethylbenzene	<0.00200	U F1	0.100	0.06060	F1	mg/Kg		61	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1382	F1	mg/Kg		69	70 - 130
o-Xylene	<0.00200	U	0.100	0.07826		mg/Kg		77	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 890-9211-A-1-D MSD
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 126678

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Benzene	<0.00200	U	0.100	0.08485		mg/Kg		85	70 - 130	13	35
Toluene	<0.00200	U	0.100	0.07973		mg/Kg		80	70 - 130	11	35
Ethylbenzene	<0.00200	U F1	0.100	0.07904		mg/Kg		79	70 - 130	26	35
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1546		mg/Kg		77	70 - 130	11	35
o-Xylene	<0.00200	U	0.100	0.07721		mg/Kg		76	70 - 130	1	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-126851/5-A
 Matrix: Solid
 Analysis Batch: 126939

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126851

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		12/16/25 12:57	12/17/25 11:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/16/25 12:57	12/17/25 11:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/16/25 12:57	12/17/25 11:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/16/25 12:57	12/17/25 11:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/16/25 12:57	12/17/25 11:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/16/25 12:57	12/17/25 11:47	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	150	S1+	70 - 130	12/16/25 12:57	12/17/25 11:47	1
1,4-Difluorobenzene (Surr)	82		70 - 130	12/16/25 12:57	12/17/25 11:47	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-126639/1-A
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/25 09:44	12/20/25 06:54	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-126639/1-A
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/25 09:44	12/20/25 06:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/25 09:44	12/20/25 06:54	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	93		70 - 130	12/15/25 09:44	12/20/25 06:54	1
o-Terphenyl	87		70 - 130	12/15/25 09:44	12/20/25 06:54	1

Lab Sample ID: LCS 880-126639/2-A
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	1041		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1198		mg/Kg		120	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	108		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-126639/3-A
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	782.1	*1	mg/Kg		78	70 - 130	28	20
Diesel Range Organics (Over C10-C28)	1000	906.5	*1	mg/Kg		91	70 - 130	28	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	108		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-9225-A-1-B MS
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	824.4		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	1000	962.6		mg/Kg		96	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	116		70 - 130
o-Terphenyl	101		70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-9225-A-1-C MSD
 Matrix: Solid
 Analysis Batch: 127324

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 126639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	838.3		mg/Kg		84	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	1000	973.1		mg/Kg		97	70 - 130	1	20
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1-Chlorooctane	117		70 - 130								
o-Terphenyl	103		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-126824/1-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0	mg/Kg			12/16/25 23:36	1

Lab Sample ID: LCS 880-126824/2-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	240.4		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-126824/3-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	240.2		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 890-9224-A-2-C MS
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	26.3		248	274.8		mg/Kg		100	90 - 110

Lab Sample ID: 890-9224-A-2-D MSD
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26.3		248	274.2		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

GC VOA

Prep Batch: 126678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	5035	
890-9226-2	CS13	Total/NA	Solid	5035	
890-9226-3	CS14	Total/NA	Solid	5035	
890-9226-4	CS15	Total/NA	Solid	5035	
MB 880-126678/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-126678/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-126678/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-9211-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-9211-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 126851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-126851/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 126939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	8021B	126678
890-9226-2	CS13	Total/NA	Solid	8021B	126678
890-9226-3	CS14	Total/NA	Solid	8021B	126678
890-9226-4	CS15	Total/NA	Solid	8021B	126678
MB 880-126678/5-A	Method Blank	Total/NA	Solid	8021B	126678
MB 880-126851/5-A	Method Blank	Total/NA	Solid	8021B	126851
LCS 880-126678/1-A	Lab Control Sample	Total/NA	Solid	8021B	126678
LCSD 880-126678/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	126678
890-9211-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	126678
890-9211-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	126678

Analysis Batch: 127160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	Total BTEX	
890-9226-2	CS13	Total/NA	Solid	Total BTEX	
890-9226-3	CS14	Total/NA	Solid	Total BTEX	
890-9226-4	CS15	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 126639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	8015NM Prep	
890-9226-2	CS13	Total/NA	Solid	8015NM Prep	
890-9226-3	CS14	Total/NA	Solid	8015NM Prep	
890-9226-4	CS15	Total/NA	Solid	8015NM Prep	
MB 880-126639/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-126639/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-126639/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-9225-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-9225-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 127324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	8015B NM	126639

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

GC Semi VOA (Continued)

Analysis Batch: 127324 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-2	CS13	Total/NA	Solid	8015B NM	126639
890-9226-3	CS14	Total/NA	Solid	8015B NM	126639
890-9226-4	CS15	Total/NA	Solid	8015B NM	126639
MB 880-126639/1-A	Method Blank	Total/NA	Solid	8015B NM	126639
LCS 880-126639/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	126639
LCSD 880-126639/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	126639
890-9225-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	126639
890-9225-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	126639

Analysis Batch: 127485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Total/NA	Solid	8015 NM	
890-9226-2	CS13	Total/NA	Solid	8015 NM	
890-9226-3	CS14	Total/NA	Solid	8015 NM	
890-9226-4	CS15	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 126824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Soluble	Solid	DI Leach	
890-9226-2	CS13	Soluble	Solid	DI Leach	
890-9226-3	CS14	Soluble	Solid	DI Leach	
890-9226-4	CS15	Soluble	Solid	DI Leach	
MB 880-126824/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-126824/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-126824/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-9224-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-9224-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 126877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9226-1	CS12	Soluble	Solid	300.0	126824
890-9226-2	CS13	Soluble	Solid	300.0	126824
890-9226-3	CS14	Soluble	Solid	300.0	126824
890-9226-4	CS15	Soluble	Solid	300.0	126824
MB 880-126824/1-A	Method Blank	Soluble	Solid	300.0	126824
LCS 880-126824/2-A	Lab Control Sample	Soluble	Solid	300.0	126824
LCSD 880-126824/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	126824
890-9224-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	126824
890-9224-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	126824

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
 SDG: 03C1558485

Client Sample ID: CS12

Lab Sample ID: 890-9226-1

Date Collected: 12/12/25 09:30

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	126678	12/15/25 12:36	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126939	12/18/25 06:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			127160	12/18/25 06:49	SA	EET MID
Total/NA	Analysis	8015 NM		1			127485	12/20/25 13:23	SA	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10.00 mL	126639	12/15/25 09:44	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	127324	12/20/25 13:23	FC	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	126824	12/16/25 09:47	SA	EET MID
Soluble	Analysis	300.0		1			126877	12/17/25 01:45	CS	EET MID

Client Sample ID: CS13

Lab Sample ID: 890-9226-2

Date Collected: 12/12/25 09:35

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	126678	12/15/25 12:36	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126939	12/18/25 07:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			127160	12/18/25 07:10	SA	EET MID
Total/NA	Analysis	8015 NM		1			127485	12/20/25 13:38	SA	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10.00 mL	126639	12/15/25 09:44	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	127324	12/20/25 13:38	FC	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	126824	12/16/25 09:47	SA	EET MID
Soluble	Analysis	300.0		10			126877	12/17/25 01:49	CS	EET MID

Client Sample ID: CS14

Lab Sample ID: 890-9226-3

Date Collected: 12/12/25 09:40

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	126678	12/15/25 12:36	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126939	12/18/25 07:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			127160	12/18/25 07:30	SA	EET MID
Total/NA	Analysis	8015 NM		1			127485	12/20/25 13:51	SA	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10.00 mL	126639	12/15/25 09:44	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	127324	12/20/25 13:51	FC	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	126824	12/16/25 09:47	SA	EET MID
Soluble	Analysis	300.0		1			126877	12/17/25 01:54	CS	EET MID

Client Sample ID: CS15

Lab Sample ID: 890-9226-4

Date Collected: 12/12/25 09:45

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	126678	12/15/25 12:36	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126939	12/18/25 07:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			127160	12/18/25 07:51	SA	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Client Sample ID: CS15

Lab Sample ID: 890-9226-4

Date Collected: 12/12/25 09:45

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			127485	12/20/25 14:05	SA	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10.00 mL	126639	12/15/25 09:44	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	127324	12/20/25 14:05	FC	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	126824	12/16/25 09:47	SA	EET MID
Soluble	Analysis	300.0		1			126877	12/17/25 01:59	CS	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400	06-30-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Ensolum
Project/Site: PLU South Frac Pit Spills

Job ID: 890-9226-1
SDG: 03C1558485

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9226-1	CS12	Solid	12/12/25 09:30	12/12/25 13:00	0.5
890-9226-2	CS13	Solid	12/12/25 09:35	12/12/25 13:00	0.5
890-9226-3	CS14	Solid	12/12/25 09:40	12/12/25 13:00	0.5
890-9226-4	CS15	Solid	12/12/25 09:45	12/12/25 13:00	0.5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9226-1

SDG Number: 03C1558485

Login Number: 9226

List Number: 1

Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9226-1

SDG Number: 03C1558485

Login Number: 9226

List Source: Eurofins Midland

List Number: 2

List Creation: 12/15/25 09:20 AM

Creator: Laing, Edmundo

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Tracy Hillard
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 12/19/2025 5:08:44 PM

JOB DESCRIPTION

PLU SOUTH FRAC PIT-SPILLS
03C1558485

JOB NUMBER

890-9227-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
12/19/2025 5:08:44 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440



Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Laboratory Job ID: 890-9227-1
SDG: 03C1558485

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	21

Definitions/Glossary

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1

Job ID: 890-9227-1

Eurofins Carlsbad

Job Narrative 890-9227-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The sample was received on 12/12/2025 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C.

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-9227-1).

GC VOA

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-126789 recovered above the upper control limit for Ethylbenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is:(CCV 880-126789/20).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-126638/2-A) and (LCSD 880-126638/3-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-9223-A-12-B MS). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Carlsbad



Client Sample Results

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Client Sample ID: SS05

Lab Sample ID: 890-9227-1

Date Collected: 12/12/25 10:40

Matrix: Solid

Date Received: 12/12/25 13:00

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/16/25 11:12	12/16/25 20:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/16/25 11:12	12/16/25 20:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/16/25 11:12	12/16/25 20:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/16/25 11:12	12/16/25 20:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/16/25 11:12	12/16/25 20:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/16/25 11:12	12/16/25 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	12/16/25 11:12	12/16/25 20:38	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/16/25 11:12	12/16/25 20:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/16/25 20:38	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			12/19/25 17:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		12/15/25 09:42	12/19/25 17:00	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		12/15/25 09:42	12/19/25 17:00	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		12/15/25 09:42	12/19/25 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	12/15/25 09:42	12/19/25 17:00	1
o-Terphenyl	122		70 - 130	12/15/25 09:42	12/19/25 17:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.6		9.94	mg/Kg			12/17/25 02:04	1

Surrogate Summary

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-9227-1	SS05	108	100
890-9231-A-21-G MS	Matrix Spike	105	95
890-9231-A-21-H MSD	Matrix Spike Duplicate	100	97
LCS 880-126837/1-A	Lab Control Sample	89	101
LCSD 880-126837/2-A	Lab Control Sample Dup	101	96
MB 880-126837/5-A	Method Blank	94	91

Surrogate Legend
 BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-9223-A-12-B MS	Matrix Spike	121	144 S1+
890-9223-A-12-C MSD	Matrix Spike Duplicate	119	129
890-9227-1	SS05	115	122
LCS 880-126638/2-A	Lab Control Sample	127	131 S1+
LCSD 880-126638/3-A	Lab Control Sample Dup	126	150 S1+
MB 880-126638/1-A	Method Blank	116	102

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-126837/5-A
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/16/25 08:00	12/16/25 11:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/16/25 08:00	12/16/25 11:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/16/25 08:00	12/16/25 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/16/25 08:00	12/16/25 11:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/16/25 08:00	12/16/25 11:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/16/25 08:00	12/16/25 11:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	12/16/25 08:00	12/16/25 11:01	1
1,4-Difluorobenzene (Surr)	91		70 - 130	12/16/25 08:00	12/16/25 11:01	1

Lab Sample ID: LCS 880-126837/1-A
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1058		mg/Kg		106	70 - 130
Toluene	0.100	0.09015		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09289		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1822		mg/Kg		91	70 - 130
o-Xylene	0.100	0.09150		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: LCSD 880-126837/2-A
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09865		mg/Kg		99	70 - 130	7	35
Toluene	0.100	0.09508		mg/Kg		95	70 - 130	5	35
Ethylbenzene	0.100	0.1017		mg/Kg		102	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.2035		mg/Kg		102	70 - 130	11	35
o-Xylene	0.100	0.1024		mg/Kg		102	70 - 130	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-9231-A-21-G MS
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.08210		mg/Kg		82	70 - 130
Toluene	<0.00200	U	0.100	0.07905		mg/Kg		79	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-9231-A-21-G MS
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00200	U	0.100	0.08355		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1640		mg/Kg		82	70 - 130
o-Xylene	<0.00200	U	0.100	0.08327		mg/Kg		83	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-9231-A-21-H MSD
 Matrix: Solid
 Analysis Batch: 126789

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 126837

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00200	U	0.100	0.09073		mg/Kg		91	70 - 130	10	35
Toluene	<0.00200	U	0.100	0.08204		mg/Kg		82	70 - 130	4	35
Ethylbenzene	<0.00200	U	0.100	0.08109		mg/Kg		81	70 - 130	3	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1597		mg/Kg		80	70 - 130	3	35
o-Xylene	<0.00200	U	0.100	0.08234		mg/Kg		82	70 - 130	1	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-126638/1-A
 Matrix: Solid
 Analysis Batch: 127237

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 126638

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/25 09:41	12/19/25 07:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/25 09:41	12/19/25 07:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/25 09:41	12/19/25 07:23	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	116		70 - 130	12/15/25 09:41	12/19/25 07:23	1
o-Terphenyl	102		70 - 130	12/15/25 09:41	12/19/25 07:23	1

Lab Sample ID: LCS 880-126638/2-A
 Matrix: Solid
 Analysis Batch: 127237

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 126638

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
Gasoline Range Organics (GRO)-C6-C10	1000	945.6		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1147		mg/Kg		115	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-126638/2-A
Matrix: Solid
Analysis Batch: 127237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 126638

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	127		70 - 130
o-Terphenyl	131	S1+	70 - 130

Lab Sample ID: LCSD 880-126638/3-A
Matrix: Solid
Analysis Batch: 127237

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 126638

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	989.5		mg/Kg		99	70 - 130	5		20
Diesel Range Organics (Over C10-C28)	1000	1286		mg/Kg		129	70 - 130	11		20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	126		70 - 130
o-Terphenyl	150	S1+	70 - 130

Lab Sample ID: 890-9223-A-12-B MS
Matrix: Solid
Analysis Batch: 127237

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 126638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	927.7		mg/Kg		93	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1151		mg/Kg		115	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	121		70 - 130
o-Terphenyl	144	S1+	70 - 130

Lab Sample ID: 890-9223-A-12-C MSD
Matrix: Solid
Analysis Batch: 127237

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 126638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	953.8		mg/Kg		95	70 - 130	3
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1081		mg/Kg		108	70 - 130	6

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	119		70 - 130
o-Terphenyl	129		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-126824/1-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0	mg/Kg			12/16/25 23:36	1

Lab Sample ID: LCS 880-126824/2-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	240.4		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-126824/3-A
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	240.2		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 890-9224-A-2-C MS
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	26.3		248	274.8		mg/Kg		100	90 - 110

Lab Sample ID: 890-9224-A-2-D MSD
 Matrix: Solid
 Analysis Batch: 126877

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26.3		248	274.2		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

GC VOA

Analysis Batch: 126789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	8021B	126837
MB 880-126837/5-A	Method Blank	Total/NA	Solid	8021B	126837
LCS 880-126837/1-A	Lab Control Sample	Total/NA	Solid	8021B	126837
LCSD 880-126837/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	126837
890-9231-A-21-G MS	Matrix Spike	Total/NA	Solid	8021B	126837
890-9231-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	126837

Prep Batch: 126837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	5035	
MB 880-126837/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-126837/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-126837/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-9231-A-21-G MS	Matrix Spike	Total/NA	Solid	5035	
890-9231-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 127134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 126638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-126638/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-126638/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-126638/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-9223-A-12-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-9223-A-12-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 127237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	8015B NM	126638
MB 880-126638/1-A	Method Blank	Total/NA	Solid	8015B NM	126638
LCS 880-126638/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	126638
LCSD 880-126638/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	126638
890-9223-A-12-B MS	Matrix Spike	Total/NA	Solid	8015B NM	126638
890-9223-A-12-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	126638

Analysis Batch: 127321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 126824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Soluble	Solid	DI Leach	
MB 880-126824/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-126824/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-126824/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

HPLC/IC (Continued)

Leach Batch: 126824 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9224-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-9224-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 126877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9227-1	SS05	Soluble	Solid	300.0	126824
MB 880-126824/1-A	Method Blank	Soluble	Solid	300.0	126824
LCS 880-126824/2-A	Lab Control Sample	Soluble	Solid	300.0	126824
LCSD 880-126824/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	126824
890-9224-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	126824
890-9224-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	126824

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: Ensolum
 Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
 SDG: 03C1558485

Client Sample ID: SS05

Lab Sample ID: 890-9227-1

Date Collected: 12/12/25 10:40

Matrix: Solid

Date Received: 12/12/25 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	126837	12/16/25 11:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126789	12/16/25 20:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			127134	12/16/25 20:38	SA	EET MID
Total/NA	Analysis	8015 NM		1			127321	12/19/25 17:00	SA	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10.00 mL	126638	12/15/25 09:42	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	127237	12/19/25 17:00	FC	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	126824	12/16/25 09:47	SA	EET MID
Soluble	Analysis	300.0		1			126877	12/17/25 02:04	CS	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400	06-30-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC PIT-SPILLS

Job ID: 890-9227-1
SDG: 03C1558485

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9227-1	SS05	Solid	12/12/25 10:40	12/12/25 13:00	0.5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing
 Xenco



W1

890-9227 Chain of Custody

Project Manager: Tracy Hillard Company Name: Ensolum Address: 3122 National Parks Hwy Carlsbad, NM 88220 City, State ZIP: Phone: 512-709-2473		Bill to: (if different) Robert Woodall Company Name: XTO Energy, Inc Address: 3104 E Greene St Carlsbad, NM 88220 Kinomason, L Morrissey, L Miller, J Reich, B Babin, Knaebel, @ensolum.com richard.kotzur@xtonmobill.com	
Project Name: PLU South Frac Pit - Spills Project Number: 03C1558485 Project Location: 32.098047, -103.866983 Sampler's Name: Evan Roe PO #:		Turn Around <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush Due Date: TAT starts the day received by the lab, if received by 4:30pm	
SAMPLE RECEIPT Samples Received Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Thermometer ID: <i>TK1000</i> Cooler Custody Seals: Yes <input checked="" type="checkbox"/> No <i>N/A</i> Correction Factor: <i>-0.2</i> Sample Custody Seals: Yes <input checked="" type="checkbox"/> No <i>N/A</i> Temperature Reading: <i>5.6</i> Total Containers: Corrected Temperature: <i>5.4</i>		Parameters Pres. Code:	
Sample Identification SS05 Matrix: Soil Date Sampled: 12/12/2025 Time Sampled: 1040 Depth: 0.5 Grab/Comp: 1 Grab Cont: 1		ANALYSIS REQUEST None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	
Sample Comments Incident ID: nAPP2408034878 CC: 1081711001 GFCM: 48506000		Work Order Comments Program: UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> RC <input type="checkbox"/> Jperfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	
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 Hg: 1631 / 245.1 / 7470 / 7471			
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.			
Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00		Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00	
Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00		Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00	
Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00		Relinquished by: (Signature) <i>[Signature]</i> Received by: (Signature) <i>[Signature]</i> Date/Time: 12/12/2025 17:00	



Revised Date: 08/25/2020 Rev. 2020 2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-9227-1
Client Contact: Shipping/Receiving		Phone: N/A	E-Mail: Jessica.Kramer@et.eurofins.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Cent		Accreditations Required (See note): NELAP - Texas		Job #: 890-9227-1	Preservation Codes:
Address: 1211 W. Florida Ave.		Due Date Requested: 12/18/2025		Analysis Requested:	
City: Midland	TAT Requested (days): N/A	PO #: N/A		Total Number of Containers: 1	
State: TX, 79701	PO #: N/A	WO #: N/A		Other: N/A	
Phone: 432-704-5440(Tel)	Project #: 89000110	SSOW#: N/A		Special Instructions/Note:	
Email: N/A	Project Name: PLU SOUTH FRAC PIT-SPILLS	Site: N/A			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, B=bitumen, A=air)
SS05 (890-9227-1)	12/12/25	10:40 Mountain	G	Solid	
Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Total BTEX_GCV	
8015MOD_NM/8015NM_S_Prep(MOD) Full TPH		X		X	
8015MOD_Calc		X		X	
300_ORGM_280/DI_LEACHChloride		X		X	
80218/5035FP_Calc(MOD) BTEX		X		X	

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
Special Instructions/QC Requirements:

Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *S. Swann* Date: 12-12-25 1630 Company: _____

Relinquished by: _____ Date: _____ Company: _____

Relinquished by: _____ Date: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____

Cooler Temperature: 43/4.2 IR-8 (-0.1)

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification

Unconfirmed



Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9227-1

SDG Number: 03C1558485

Login Number: 9227

List Number: 1

Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9227-1

SDG Number: 03C1558485

Login Number: 9227

List Number: 2

Creator: Laing, Edmundo

List Source: Eurofins Midland

List Creation: 12/15/25 09:20 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



APPENDIX E

NMOCD Correspondence

From: [Hamlet, Robert, EMNRD](#)
To: [Brown, Colton S](#)
Cc: [Dirkx, Kaylan](#); [Woodall, Robert D](#); [Mcafee, Ashley A](#); [Tacoma Morrissey](#); [Ben Bellil](#); [Tracy Hillard](#); [Bratcher, Michael, EMNRD](#); [Wells, Shelly, EMNRD](#)
Subject: (Extension Denied) - XTO - Status Update - PLU South Frac Pit - Incident Number nAPP2408034878
Date: Friday, May 30, 2025 11:35:39 AM

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2408034878**

Colton,

Multiple extensions have already been granted for this incident, as well as a final extension. Your request for another extension is **denied**. Please, include this e-mail correspondence in the Remediation Closure Report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave. | Artesia, NM 88210
575.909.0302 | robert.hamlet@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>



From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Friday, May 30, 2025 8:50 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] XTO - Status Update - PLU South Frac Pit - Incident Number nAPP2408034878

From: Brown, Colton S <colton.s.brown@exxonmobil.com>
Sent: Friday, May 30, 2025 8:03 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; CFO_Spill, BLM_NM <BLM_NM_CFO_Spill@blm.gov>
Cc: Dirkx, Kaylan <kaylan.dirkx@exxonmobil.com>; Woodall, Robert D

<robert.d.woodall@exxonmobil.com>; McAfee, Ashley A <ashley.a.mcafee@exxonmobil.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; Ben Belill <bbelill@ensolum.com>; Tracy Hillard <thillard@ensolum.com>

Subject: [EXTERNAL] XTO - Status Update - PLU South Frac Pit - Incident Number nAPP2408034878

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

XTO is providing a remediation status update for a release of produced water that occurred at the PLU South Frac Pit (Incident Number - nAPP2408034878) Site. The release occurred on March 8, 2024. A Remediation Work Plan was submitted on October 30, 2024, detailing delineation activities that were completed and including a variance request to accept regional groundwater data that did not meet the NMOCD preferred distance (0.5 miles) to the Site. On December 4, 2024, the Remediation Work Plan was conditionally approved however, the variance request was denied. Excavation of impacted soil occurred between October 25, 2024 and November 11, 2024. All impacted soil identified has been excavated to date; however, a soil boring for depth to groundwater confirmation is pending drillers availability, to confirm the Closure Criteria. Following the completion of the soil boring and receipt of well logs, XTO will submit a closure report detailing excavation and sampling activities. Based on the information provided, XTO respectfully requests a 90-day extension until August 27, 2025.

Thank you

Colton Brown
Spill Coordinator

ExxonMobil Upstream Company
3104 E. Greene St.
Carlsbad, NM 88220
Cell Phone: 575-988-2390
colton.s.brown@exxonmobil.com

Tracy Hillard

Subject: FW: (Final Extension) - PLU South Frac Pit- Incident Number NAPP2408034878

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Friday, February 28, 2025 8:38 AM
To: Brown, Colton S <colton.s.brown@exxonmobil.com>
Cc: Dirx, Kaylan <kaylan.dirx@exxonmobil.com>; robert.d.woodall@exxonmobil.com
<robert.d.woodall@exxonmobil.com>; McAfee, Ashley A <ashley.a.mcafee@exxonmobil.com>; Tacoma Morrissey
<tmorrissey@ensolum.com>; Ben Belill <bbelill@ensolum.com>; Bratcher, Michael, EMNRD
<mike.bratcher@emnrd.nm.gov>; Rodgers, Scott, EMNRD <Scott.Rodgers@emnrd.nm.gov>
Subject: (Final Extension) - PLU South Frac Pit- Incident Number NAPP2408034878

[****EXTERNAL EMAIL****]

RE: Incident #**NAPP2408034878**

Colton,

A 90-day extension to **May 29th, 2025** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave. | Artesia, NM 88210
575.909.0302 | robert.hamlet@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>



From: Rodgers, Scott, EMNRD <Scott.Rodgers@emnrd.nm.gov>
Sent: Thursday, February 27, 2025 3:08 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] XTO- Extension Request- PLU South Frac Pit- Incident Number NAPP2408034878

Scott Rodgers • Environmental Specialist – Adv.
Environmental Bureau
EMNRD - Oil Conservation Division
5200 Oakland NE, Suite B | Albuquerque, NM 87113
505.469.1830 | scott.rodgers@emnrd.nm.gov
<http://www.emnrd.nm.gov/oed>



From: Brown, Colton S <colton.s.brown@exxonmobil.com>
Sent: Wednesday, February 26, 2025 8:38 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Dirx, Kaylan <kaylan.dirx@exxonmobil.com>; Woodall, Robert D <robert.d.woodall@exxonmobil.com>; McAfee, Ashley A <ashley.a.mcafee@exxonmobil.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; Ben Belill <bbelill@ensolum.com>
Subject: [EXTERNAL] XTO- Extension Request- PLU South Frac Pit- Incident Number NAPP2408034878

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

XTO is providing a remediation status update for a release of produced water that occurred at the PLU South Frac Pit (Incident Numbers NAPP2408034878) Site. The release occurred on March 8, 2024. A Remediation Work Plan was submitted on October 30, 2024, detailing delineation activities that were completed and including a variance request to accept regional groundwater data that did not meet the NMOCD preferred distance (0.5 miles) to the Site. On December 4, 2024, the Remediation Work Plan was conditionally approved however, the variance request was denied. Excavation of impacted soil occurred between October 25, 2024 and November 11, 2024. All impacted soil identified has been excavated to date; however, a soil boring for depth to ground water confirmation is scheduled to be completed in March, pending drillers availability, to confirm the Closure Criteria. Following the completion of the soil boring and receipt of well logs, XTO will submit a closure report detailing excavation and sampling activities. Based on the information provided, XTO respectfully requests a 90-day extension until June 4, 2025.

Thank you

Colton Brown
Spill Coordinator

ExxonMobil Upstream Company
3104 E. Greene St.
Carlsbad, NM 88220
Cell Phone: 575-988-2390
colton.s.brown@exxonmobil.com

OCD Permitting

Home Operator Data Action Status Action Search Results Action Status Item Details

[C-141] Site Char./Remediation Plan C-141 (C-141-V-PLAN) Application

Submission Information

Submission ID:	397618	Districts:	Artesia
Operator:	[5380] XTO ENERGY, INC	Counties:	Eddy
Description:	XTO ENERGY, INC [5380] , PLU South Frac Pit , nAPP2408034878		
Status:	APPROVED		
Status Date:	12/04/2024		
References (0):			

Forms

Attachments: [Volume Calculation](#), [Water Sources](#), [Scaled Site Map](#), [Field Data](#), [Soil Contaminant](#), [Water Depth](#), [Boring Logs](#), [Photographs](#), [Topo Aerial Maps](#), [Lab Data](#), [Proposed Technique](#), [Estimated Volume](#), [Closure Criteria](#), [Proposed Schedule](#)

Questions

Prerequisites

Incident ID (n#)	nAPP2408034878
Incident Name	NAPP2408034878 PLU SOUTH FRAC PIT @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received

Location of Release Source

Please answer all the questions in this group.

Site Name	PLU South Frac Pit
Date Release Discovered	03/08/2024
Surface Owner	Federal

Incident Details

Please answer all the questions in this group.

Incident Type	Produced Water 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

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	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Pump Produced Water Released: 12 BBL Recovered: 11 BBL Lost: 1 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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.

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.

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 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 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 do 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: Colton Brown
 Title: Environmental Advisor
 Email: colton.s.brown@exxonmobil.com
 Date: 10/30/2024

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 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)

A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (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**

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.

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)	5040
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 beginning and completing the remediation.

On what estimated date will the remediation commence	08/02/2024
On what date will (or did) the final sampling or liner inspection occur	01/28/2025
On what date will (or was) the remediation complete(d)	01/28/2025
What is the estimated surface area (in square feet) that will be reclaimed	2035
What is the estimated volume (in cubic yards) that will be reclaimed	150
What is the estimated surface area (in square feet) that will be remediated	2035
What is the estimated volume (in cubic yards) that will be remediated	150

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 then it should consult with the division to determine if another remediation plan submission is required.

Remediation Plan (continued)

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.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site 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.

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: Colton Brown
Title: Environmental Advisor
Email: colton.s.brown@exxonmobil.com
Date: 10/30/2024

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 then it should consult with the division to determine if another remediation plan submission is required.

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

Sampling Event Information

Last sampling notification (C-141N) recorded 400224
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC 11/15/2024
What was the (estimated) number of samples that were to be gathered 20
What was the sampling surface area in square feet 2850

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 No

Acknowledgments

This submission type does not have acknowledgments, at this time.

Comments

No comments found for this submission.

Conditions

Summary:

rhamlet (12/4/2024), The Remediation Plan is Conditionally Approved. The Variance Request for (depth to groundwater >100') is Denied. When nearby wells are used to determine depth to groundwater, the wells should be no further than 1/2 mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a 1/2 mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less.
rhamlet (12/4/2024), All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/depth to water determination. Sidewall/Edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The release area will need confirmation floor/sidewall samples representing no more than 200 ft2. Please make sure that the edge of the release extent is accurately defined, especially around equipment. The work will need to occur in 90 days after the report has been reviewed.

Location:	PLU South Frac Pit	
Spill Date:	3/8/2024	
Area 1		
Approximate Area =	1761.00	sq. ft.
Average Saturation (or depth) of spill =	0.25	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	0.20	bbls
Area 2		
Approximate Area =	380.40	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.20	
VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	1.13	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	12.33	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =		bbls
Total Produced Water =	11.00	bbls

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

Action 546329

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2408034878
Incident Name	NAPP2408034878 PLU SOUTH FRAC PIT @ J-27-25S-30E
Incident Type	Produced Water Release
Incident Status	Remediation Plan Approved

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	PLU South Frac Pit
Date Release Discovered	03/08/2024
Surface Owner	Federal

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Produced Water 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	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Pump Produced Water Released: 12 BBL Recovered: 11 BBL Lost: 1 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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.

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 2

Action 546329

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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	<i>Unavailable.</i>

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	<i>Not answered.</i>

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: Richard Kotzur Title: Senior Project Manager Email: NMEEnvNotifications@exxonmobil.com Date: 01/26/2026
--	--

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 3

Action 546329

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (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 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (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)	4800
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	36.9
GRO+DRO (EPA SW-846 Method 8015M)	36.9
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	08/02/2024
On what date will (or did) the final sampling or liner inspection occur	12/12/2025
On what date will (or was) the remediation complete(d)	12/12/2025
What is the estimated surface area (in square feet) that will be reclaimed	2035
What is the estimated volume (in cubic yards) that will be reclaimed	312
What is the estimated surface area (in square feet) that will be remediated	196
What is the estimated volume (in cubic yards) that will be remediated	22

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.

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 4

Action 546329

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)

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.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

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 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: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 01/26/2026
--	---

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.

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 5

Action 546329

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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 6

Action 546329

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	532520
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/12/2025
What was the (estimated) number of samples that were to be gathered	3
What was the sampling surface area in square feet	600

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	No
--	-----------

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

CONDITIONS

Action 546329

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 546329
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. Please collect confirmation closure samples, representing no more than 200 ft ² . All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site receptor characterization/proven depth to water determination. Please make sure that the edge of the release extent is accurately defined. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The work will need to be completed in 90 days after the report has been reviewed.	2/13/2026