



December 19, 2025

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
Corral Canyon Expansion  
Incident Number nAPP2526633829  
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document site assessment, excavation, soil sampling activities, and the results of a karst survey at the Corral Canyon Expansion (Site). The purpose of the assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing remedial activities that have occurred and requesting no further remediation for Incident Number nAPP2526633829.

## **SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit P, Section 05, Township 25 South, Range 29 East, in Eddy County, New Mexico (32.153719°, -103.999679°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 22, 2025, a vic clamp on a produced water surface pipeline failed, resulting in the release of approximately 18.19 barrels (bbls) of produced water onto the surface of the pad. A vacuum truck was dispatched and recovered 18.00 bbls of released fluids. The release was initially reported to the New Mexico Oil Conservation Division (NMOCD) as an in and out of containment release. However, this notification was inaccurate, and no containment was involved in the release event as the release occurred within a metal pipeline support system and flowed onto the surface of the pad. XTO submitted a Notification of Release (NOR) and Initial C-141 Application (C-141) on September 23, 2025. The release was assigned Incident Number nAPP2526633829.

## **SITE CHARACTERIZATION AND CLOSURE CRITERIA**

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

Depth to groundwater at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on a soil boring drilled for remediation purposes. In July 2019, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE), C-4324 POD 8, was completed approximately 0.09 miles southeast of the Site utilizing sonic drilling method. Soil boring C-4324 POD 8 was drilled to a

depth of 70 feet bgs. A field geologist logged and described soils continuously. Groundwater was first encountered at 65 feet bgs with a static water level of 60 feet bgs. The borehole was properly abandoned according to the NMOSE approved plugging plan. The C-4324 POD 8 Well Record & Log and Plugging Record are included in Appendix A. The location of NMOSE permitted well C-4324 POD 7 is closest to the release, however, there are no records of this well having been drilled.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 1,851 feet southeast 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. Based on the initial desktop review, the Site was identified as potentially underlain by unstable geology. Per the New Mexico Oil and Gas Map, the Site is within medium potential karst designation area. Southwest Geophysical Consulting, a BLM-approved third-party cave/karst contractor, conducted a desktop survey, aerial survey, and geophysical survey of the Site. In summary, no surface karst features within the 200-foot survey area surrounding the release extent were identified in the desktop or surface karst surveys. Results of the geophysical study indicated a well-layered geologic system is present beneath the Site with no anomalies in the data that would be consistent with air-filled subsurface voids or a pathway to groundwater, confirming the absence of medium or high karst below the Site. A copy of the karst survey is included in Appendix A. Potential Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

## **SITE ASSESSMENT ACTIVITIES**

On September 29, 2025, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations. The release extent area was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was collected and a photographic log is provided in Appendix B. Based on surficial staining of the release extent area, delineation and excavation activities were warranted.

## **DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES**

Between October 6 and December 9, 2025, Ensolum personnel were at the Site to oversee delineation, surface scraping, and excavation activities. Delineation soil samples SS01 through SS05 were collected within and around the release extent from the pad surface. Delineation borehole BH01 was advanced via hand auger to a terminal depth of 4 feet bgs to assess the vertical extent of the release. Discrete soil samples were collected from the delineation borehole at depths ranging from 0.5 feet to 4 feet bgs. The soil sample was field screened for volatile organic compounds (VOCs) utilizing a calibrated

photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Field screening results and observations for the borehole were logged on a lithologic/soil sampling log, which is included in Appendix C. The delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2.

Impacted soil was surface scraped and excavated from the release area as indicated by visible staining. Surface scraping and excavation activities were performed using hand shovels and transport vehicles. The excavation occurred on the well pad, near active production equipment, pipelines, and support structures. To direct excavation activities, Ensolum personnel screened soil for VOCs and chloride as described above. Following the removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor of the excavation or surface of the scraped extent. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples CS01 through CS03 were collected from the release extent at depths ranging from 0.5 feet to 1-foot bgs. Confirmation sidewall soil sample SW01 was collected from the sidewall of the excavation at depths ranging from ground surface to 1-foot bgs. The excavation extent and confirmation soil sample locations are presented on Figure 3.

The confirmation 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 or Eurofins Laboratory (Eurofins) in Carlsbad, 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 Standard Method SM4500 or EPA method 300.0.

The final excavation extent measured approximately 350 square feet. A total of approximately 15 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Halfway Disposal in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01, SS02, SS04, SS05, and all soil samples collected in BH01, indicated all COCs were in compliance with Closure Criteria and reclamation requirements, successfully defining the lateral and vertical extents of the release. Delineation soil sample SS03 indicated TPH concentrations exceeded Closure Criteria but this sample was removed during excavation activities.

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

## CLOSURE REQUEST

Site assessment, delineation and excavation activities were conducted at the Site to address the September 22, 2025, release of produced water. Laboratory analytical results for the confirmation soil samples indicated that all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

XTO Energy, Inc  
Closure Request  
Corral Canyon Expansion



Excavation of impacted soil has mitigated impacts at this Site. An estimated 35 cubic yards of waste-containing soil remains and will be addressed at pad abandonment. Depth to groundwater has been estimated to be between 51 feet and 100 feet bgs and no other sensitive receptors were identified near the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2526633829.

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

Sincerely,  
**Ensolum, LLC**

A handwritten signature in black ink, appearing to read "Tracy Hillard".

Tracy Hillard  
Project Engineer

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

Benjamin J. Belill  
Senior Geologist

cc: Robert Woodall, XTO  
Richard Kotzur, XTO  
BLM

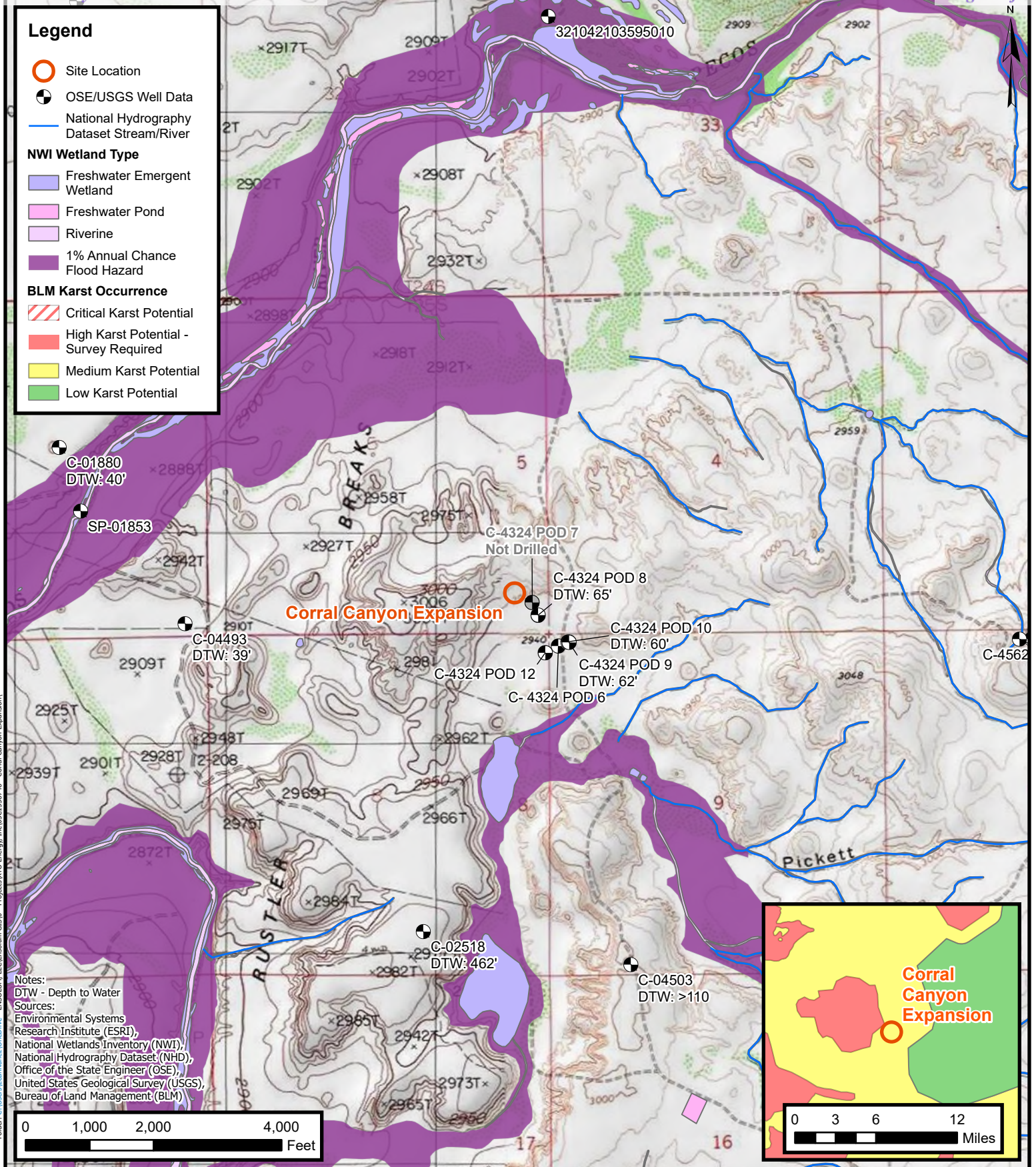
Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Site Map
Figure 3	Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Site Characterization References
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	Spill Volume Calculation





FIGURES



## Site Receptor Map

XTO Energy, Inc  
Corral Canyon Expansion  
Incident Number: nAPP2526633829  
Unit P, Section 05, T 25S, R 29E  
Eddy County, New Mexico

FIGURE

1



**Legend**

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample Removed During Excavation Activities
- ▨ Release Extent



Notes:  
 Sample ID @ Depth Below Ground Surface.  
 Concentrations in **bold** exceed the NMOCD Table I  
 Closure Criteria reclamation standard where applicable.  
 Grey text indicates soil sample removed during excavation activities.

0 5 10 20  
 Feet

Sources: Environmental Systems Research Institute (ESRI)



## Delineation Soil Sample Locations

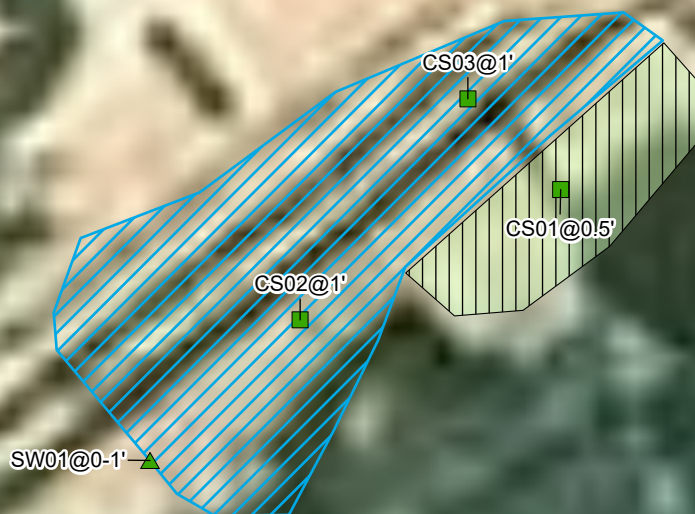
XTO Energy, Inc  
 Corral Canyon Expansion  
 Incident Number: nAPP2526633829  
 Unit P, Section 05, T 25S, R 29E  
 Eddy County, New Mexico

**FIGURE**

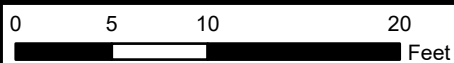
**2**

**Legend**

- Confirmation Floor Soil Sample in Compliance with Closure Criteria
- ▲ Confirmation Sidewall Soil Sample in Compliance with Closure Criteria
- ▨ Excavation Extent
- ▤ Surface Scrape Extent



Notes:  
Sample ID @ Depth Below Ground/Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Confirmation Soil Sample Location

XTO Energy, Inc  
Corral Canyon Expansion  
Incident Number: nAPP2526633829  
Unit P, Section 05, T 25S, R 29E  
Eddy County, New Mexico

**FIGURE****3**



TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Corral Canyon Expansion  
 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	10,000
<b>Delineation Soil Samples</b>										
SS01	10/06/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SS02	10/06/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS03	10/06/2025	Surface	<0.050	<0.300	<10.0	1,950	463	1,950	2,413	32.0
SS04	10/06/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SS05	12/09/2025	Surface	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	213
BH01	10/06/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624
BH01	10/06/2025	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	784
BH01	10/06/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	848
<b>Confirmation Soil Samples</b>										
CS01	10/06/2025	0.5	<0.050	<0.300	<10.0	546	104	546	650	3,080
CS02	12/09/2025	1	<0.00198	<0.00396	<49.8	57.9	<49.8	57.9	57.9	200
CS03	12/09/2025	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	2,060
SW01	12/09/2025	0-1	<0.00201	<0.00402	<50.0	150	<50.0	150	150	223

## 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

Grey text indicates soil sample removed during excavation activities





## APPENDIX A

### Site Characterization References

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD 8 (MW02)		WELL TAG ID NO.		OSE FILE NO(S) C-4324		
	WELL OWNER NAME(S) XTO Energy, Inc.				PHONE (OPTIONAL) 432-221-7331		
	WELL OWNER MAILING ADDRESS 522 W Mermond, Suite 704				CITY Carlsbad	STATE NM	
					ZIP 88220		
WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32		MINUTES 9	SECONDS 10.01	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84	
	LONGITUDE 103		59	54.38	W		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE South East Quarter of South East Quarter of Section 5, Township 25 South, Range 29 East, Eddy County, New Mexico							
2. DRILLING & CASING INFORMATION	LICENSE NO. 1664		NAME OF LICENSED DRILLER Shawn Cain			NAME OF WELL DRILLING COMPANY Cascade Drilling	
	DRILLING STARTED 7/21/2019	DRILLING ENDED 7/21/2019	DEPTH OF COMPLETED WELL (FT) 69	BORE HOLE DEPTH (FT) 70	DEPTH WATER FIRST ENCOUNTERED (FT) 65		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 60		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD		ADDITIVES - SPECIFY:				
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY:		Sonic				
	DEPTH (feet bgl) FROM TO		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)
	0 70		6				
	0 49			2" PVC Blank	Flush Thread SCH 40	2.067	.154
	49 69			2" PVC Screen	Flush Thread SCH 40	2.067	.154
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT	
	0 2		6	Concrete	.5	Poured	
	2 47		6	Bentonite Chips	8	Poured	
	47 70		6	12-20 Sand	4	Poured	

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. C-4324	POD NO. 8	TRN NO. 154446
LOCATION 25S.29E.5.444	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	14	14	(SP-SM) - brown-light brown silty SAND	Y ✓ N	
	14	24	10	(CLCHE) - tan CALICHE	Y ✓ N	
	24	49	25	(ML) - light brown-red SILT	Y ✓ N	
	49	51	2	(CLCHE) - tan-light brown CALICHE	Y ✓ N	
	51	60	9	(SP) - tan-light brown SAND	Y ✓ N	
	60	70	10	(CH) - red-brown silty CLAY	✓ Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION:					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:					
6. SIGNATURE	<p>BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.</p> <p><u>Shawn Cain</u>      <u>Shawn Cain</u>      <u>8-23-19</u></p> <p>SIGNATURE OF DRILLER / PRINT SIGNEE NAME      DATE</p>					

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 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: G-4323 POD 8 (MW02)

Well owner: XTO Energy, Inc.

Phone No.: 432-221-7331

Mailing address: 522 W Mermod Suit 704

City: Carlsbad

State: NM

Zip code: 88220

## II. WELL PLUGGING INFORMATION:

- 1) Name of well drilling company that plugged well: Jackie D. Atkins ( Atkins Engineering Associates Inc.)
- 2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23
- 3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge
- 4) Date well plugging began: 1/05/2022 Date well plugging concluded: 1/05/2022
- 5) GPS Well Location: Latitude: 32 deg, 9 min, 10.01 sec  
Longitude: 103 deg, 59 min, 54.38 sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: 70.95 ft below ground level (bgl),  
by the following manner: weighted tape
- 7) Static water level measured at initiation of plugging: 63.68 ft bgl
- 8) Date well plugging plan of operations was approved by the State Engineer: 2/26/2021
- 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):

OSE DTI JAN 7 2022 PM 1:39

- For each interval plugged, describe within the following columns:**

<u>Depth</u> (ft bgl)	<u>Plugging Material Used</u> (include any additives used)	<u>Volume of Material Placed</u> (gallons)	<u>Theoretical Volume of Borehole/ Casing</u> (gallons)	<u>Placement Method</u> (tremie pipe, other)	<u>Comments</u> ("casing perforated first", "open annular space also plugged", etc.)
0-70.9'	Portland Type I/II Neat Cement	27 gallons	12.3 gallons	tremie	

MULTIPLY		BY	AND OBTAIN
cubic feet	x	7.4805	= gallons
cubic yards	x	201.97	= gallons

OSE DII JAN 7 2022 PM 1:39

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins

Signature of Well Driller

01/07/2022

Date \_\_\_\_\_








# 2022-1-7\_C-4323-pod8\_\_WD-11 Plugging Record

Final Audit Report

2022-01-07

Created:	2022-01-07
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAANmYNHH8R5wc4ezc9CnfxGGDfkGmuMWbH

## "2022-1-7\_C-4323-pod8\_\_WD-11 Plugging Record" History

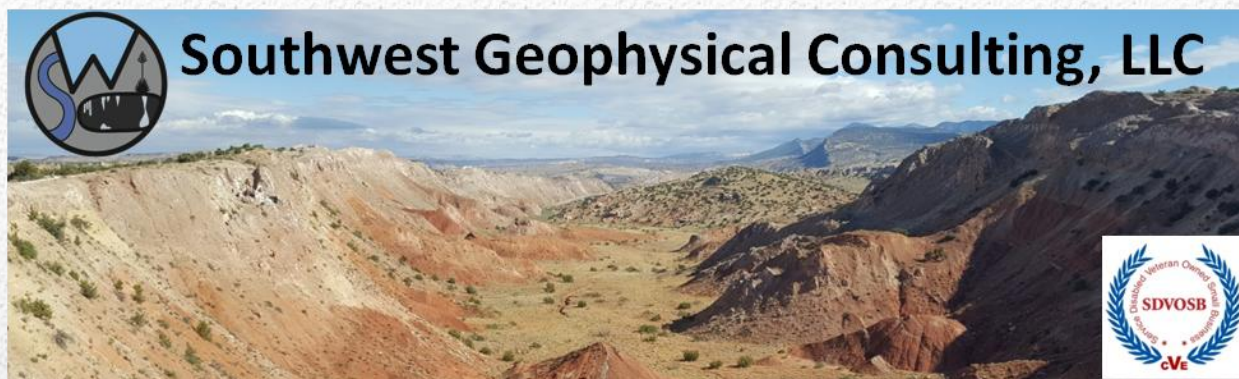
-  Document created by Lucas Middleton (lucas@atkinseng.com)  
2022-01-07 - 5:18:10 PM GMT- IP address: 69.21.248.123
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature  
2022-01-07 - 5:18:35 PM GMT
-  Email viewed by Jack Atkins (jack@atkinseng.com)  
2022-01-07 - 5:19:01 PM GMT- IP address: 64.90.153.232
-  Document e-signed by Jack Atkins (jack@atkinseng.com)  
Signature Date: 2022-01-07 - 5:19:15 PM GMT - Time Source: server- IP address: 64.90.153.232
-  Agreement completed.  
2022-01-07 - 5:19:15 PM GMT

DSE DIT JAN 7 2022 PM 1:39



Adobe Sign





# **Environmental Karst Study Report XTO Corral Canyon Extension Eddy County, New Mexico**

**Prepared For:  
Ensolum, LLC  
3122 National Parks Highway  
Carlsbad, NM 88220**

**Within 200 feet of the spill delineation boundary:**

- ☒ Negative ☐ Positive for surface karst
- ☒ Stable ☐ Unstable Ground
- ☐ Karst Monitor Recommended

**December 2, 2025**

ENS-029-20251017

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MMXXV

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## 1.0 INTRODUCTION

This report was commissioned by Ensolum, LLC (hereinafter referred to as "the client"), on October 17, 2025, for the purpose of conducting an environmental karst study within an area encompassing the XTO Corral Canyon Extension release site (hereinafter termed "XCCX") centered at N 32.153256° W 103.999844°.

### 1.1 Goals of this Study

The goals of this study are to conduct a surface karst inventory and provide the client with the location and description of any surface karst features located within 200 feet (61 meters) of the spill delineation boundary (as defined by 19.15.29.12 NMAC<sup>[1]</sup>), and to determine whether stable ground exists (as defined by 19.15.2 NMAC Definitions<sup>[2]</sup>) within 200 feet of the spill delineation boundary of the XTO Corral Canyon Extension release as provided by the client via e-mail (**Corral Canyon Option #1.kmz**) on October 17, 2025, and modified by the client via e-mail (**Corral Canyon Option 2B.kmz**) on November 18, 2025, (revised from using the spill delineation boundary to using the pad boundary), using electrical resistivity imaging<sup>[3]</sup>.

### 1.2 Summary of Findings

- **No surface karst features exist within 200 feet (61 meters) of the spill delineation boundary.**
- **No anomalies consistent with subsurface air- or water-filled voids were found within the XCCX geophysical survey area, indicating the zone beneath the geophysical survey is not subject to collapse.**
- **Moderately well-layered stratigraphy is interpreted to exist beneath the area where the geophysical survey was conducted, indicating stable ground within the 200-foot survey boundary.**

### 1.3 Affected Environment

The XCCX project site is located in evaporite karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Evaporite karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region. Additionally, karst may develop by hypogene processes involving dissolution by upwelling fluids from depth independent of recharge from the overlying or immediately adjacent surface. Hypogene karst systems may not be connected to the surface and can remain undiscovered unless encountered during drilling or excavation.

Karst features are delicate resources that are often of geological, hydrological, biological, and archeological importance, and should be protected. The four primary concerns in these types of terrain are environmental issues, worker safety, equipment damage, and infrastructure integrity.

The Bureau of Land Management (BLM) categorizes all areas within the Carlsbad Field Office (CFO) zone of responsibility as having either low, medium, high, or critical cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to freshwater aquifers<sup>[4]</sup>. These designations are also recognized by the New Mexico State Land Office (NMSLO). This project occurs within a **MEDIUM** karst occurrence zone (MKOZ)<sup>[5]</sup> (**Figure 1**).

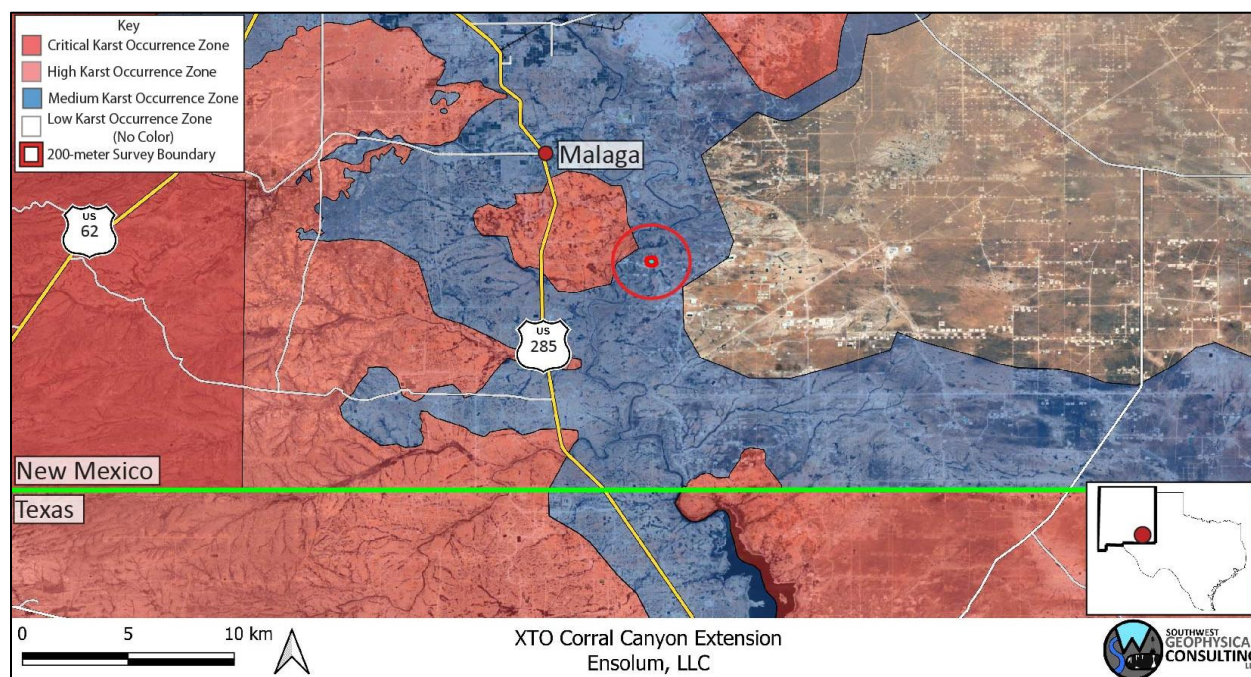


Figure 1: Karst occurrence zone overview. Background image: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.

A medium karst occurrence zone is defined as an area in known soluble rock types that may have a shallow insoluble overburden. These areas may contain isolated karst features such as caves and sinkholes. Groundwater recharge may not be wholly dependent on karst features, but the karst features still provide the most rapid aquifer recharge in response to surface runoff <sup>[4]</sup>.

**Due to the rapidity with which evaporite karst develops, each location within a BLM-CFO-designated karst occurrence zone must be assessed on an individual basis to determine the existence of surface karst features and the possibility of sub-surface karst development each time a release occurs.**



#### **1.4 Limitations of Report**

This report should be read in full. No responsibility is accepted for the use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

This report has been prepared for the use of Ensolum, LLC, in accordance with generally accepted consulting practices. Every effort has been made to ensure the information in this report is accurate as of the time of its writing. This report has not been prepared for use by parties other than the client, their contracting party, and their respective consulting advisors. It may not contain sufficient information for the purposes of other parties or for other uses.

This report was prepared upon completion of the associated fieldwork using a standard template prepared by Southwest Geophysical Consulting and is based on information collected prior to fieldwork, conditions encountered on site, and data collected during the fieldwork and reviewed at the time of preparation. Southwest Geophysical Consulting disclaims responsibility for any changes that might have occurred at the site after this time. The interpreted results, locations, and depths noted in this report (if applicable) should be taken as an interpretation only and no decision should be based solely on this information. Physical verification of aerial imagery analysis results should be conducted in the field prior to using this information for remediation planning. Physical verification of geophysical results using geotechnical methods should be conducted.

To the best of our knowledge, the information contained in this report is accurate at the date of issue. Due to the nature of karst terrain, the information in this report shall not be used beyond two years past the date of the field work provided in section **2.3 Description of Survey**. Large weather events can shorten this time period as areas subject to karst development can rapidly form new features subsequent to these events.

## 2.0 LOCATION AND DESCRIPTION OF STUDY AREA

### 2.1 Description of Site

The site is located in Eddy County, New Mexico, 10.6 kilometers (8.6 miles) southeast of Malaga, east of the Pecos River, and north of Pipeline Road Number 1. The release area is located within section 5 of NM T25S R29E<sup>[6]</sup> (**Figure 1** and **Figure 2**). The region has rolling terrain with karstification occurring in the gypsite soils and underlying gypsum and dolomite bedrock<sup>[7]</sup> (see section **2.2 Local Geology Summary** for further information). The climate in this area of southeast New Mexico is semi-arid with an average annual precipitation of approximately 13 inches, of which about two-thirds falls as rain during summer thunderstorms from June to October. Summers are hot and sunny while winters are generally mild, with an average maximum temperature of 96°F in July and an average minimum temperature of 28°F in January<sup>[8]</sup>. This area is within the Chihuahuan Desert Thornscrub as defined by the Southwestern Regional ReGAP Vegetation map<sup>[9]</sup> and the vegetation consists mostly of areas of blue grama, nine-awned pappus grass, burro grass and low scrub including yucca. The spill delineation boundary is located within an MKOZ<sup>[5]</sup> (**Figure 1**) and within BLM-CFO-managed land<sup>[10]</sup> (**Figure 2**).

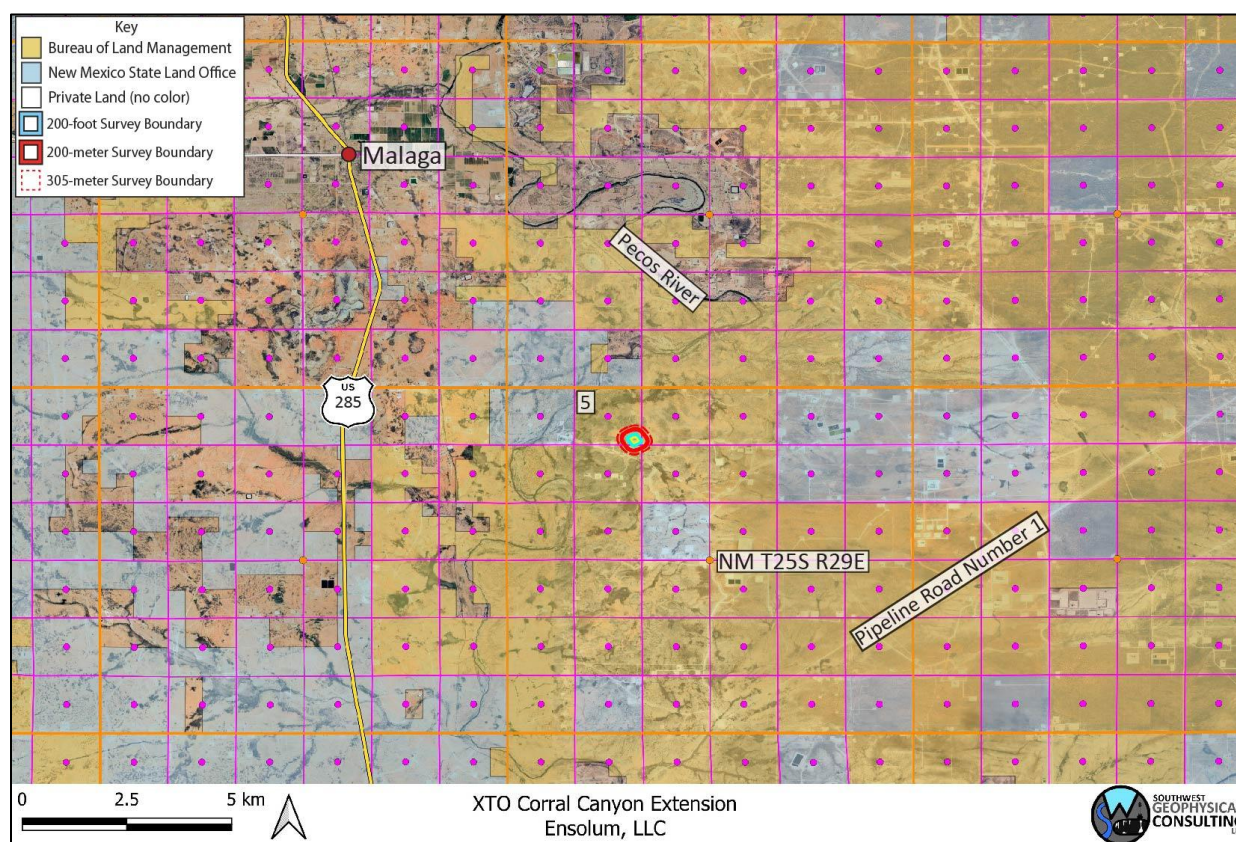


Figure 2: Land ownership and PLSS overview. Background image credit: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.

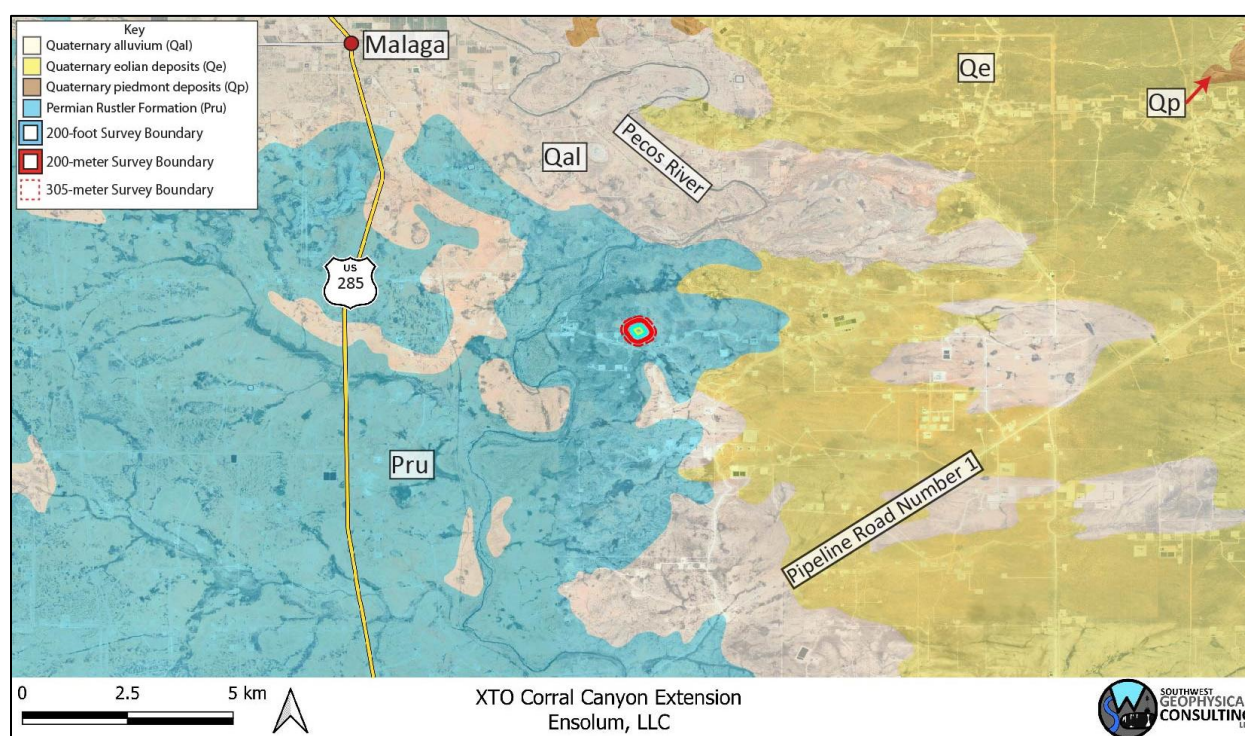


## 2.2 Local Geology Summary

The site for the XCCX survey is located at an elevation of 906 meters (2,972 feet),  $\pm$  11 meters (36 feet). This region is entirely underlain by the Permian Rustler (Pru) and Salado (Psl) Formations (Psl outcrops to the west of the region, so is not shown). The area is mantled by thin gypsiferous soils (gypsite) and Quaternary alluvium (Qal)<sup>[11]</sup> up to 5 meters in depth (**Figure 3**).

The Rustler Formation is an evaporite facies composed mainly of thin siltstones and sandstones interbedded with claystones, dolomite, and gypsum, and contains both karst-forming strata (the Forty-niner and Tamarisk members) and two shallow aquifers (the Magenta and Culebra Dolomite members)<sup>[12]</sup>.

The Pru overlies the Salado Formation, a layer of extremely soluble halite which can readily dissolve to create caves, sinkholes, and other karst features; however, due to its extremely soluble nature, only non-soluble silt and sand remain from the dissolution of this layer at the surface<sup>[12]</sup>. The Rustler Formation may be subject to collapse if a void has developed beneath it in the Salado Formation<sup>[13]</sup>.



**Figure 3: Geology overview.** Geology map credit: The Digital Geologic Map of New Mexico in ARC/INFO Format. Background image credit: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.

The survey area is covered by the easily accessible Geologic Map of New Mexico (2003) at 1:500,000 scale<sup>[14]</sup> and the Digital Geologic Map of New Mexico in ARC/INFO Format<sup>[11]</sup>.

## 2.3 Description of Survey

### 2.3.1 Surface Karst Survey

Southwest Geophysical Consulting, in partnership with SWCA Environmental Consultants, provides surface karst surveys using small, uncrewed aerial systems (sUAS) that are flown by qualified, FAA licensed drone pilots and that meet the stringent Bureau of Land Management – Carlsbad Field Office requirements for both pedestrian and aerial karst surveys.

The surface karst survey includes a desk study prior to the flight which allows us to provide client feedback in the event of any previously known karst features in the area. The desk study is typically performed out to 305 meters (1,000 feet) from the spill delineation boundary per New Mexico Oil Conservation Division guidance<sup>[1]</sup> (**Figure 4**). At the request of the client, this desk study was conducted out to 305 meters (1,000 feet) from the pad boundary rather than the spill delineation boundary. The study was performed using satellite and aerial imagery from Google Earth Pro dated March 20, 2023 (please note features less than one meter in diameter are generally not visible using this method); the Southwest Geophysical Cave and Karst Database dated October 27, 2025<sup>[15]</sup>; the Malaga, NM, 1:24,000 quad, 1985, USGS topographic map; and the latest lidar imagery from CalTopo.com. Please note that we use older topographic maps because newer maps have had caves removed from them. These searches and queries returned no karst feature within the 305-meter survey boundary.

Surface karst surveys are conducted by sUAS at low elevation within 200 meters of the spill delineation boundary<sup>[4]</sup> (**Figure 4**) following a preplanned raster pattern flightpath designed for the purpose of generating at least 75% imagery overlap. The collected high-resolution, georeferenced imagery is stitched together to develop orthomosaic imagery which is further developed into a digital elevation model (DEM); the DEM is then processed into a local relief model (LRM) (**Figure 6**). This LRM is color coded to enhance differences in elevation of as little as five centimeters. The orthoimagery, DEM, and LRM are uploaded to a server where they are analyzed by an experienced karst geologist. Finally, the data is reviewed by a senior karst geologist for quality assurance and downloaded into a table for inclusion in a written report<sup>[16]</sup>.



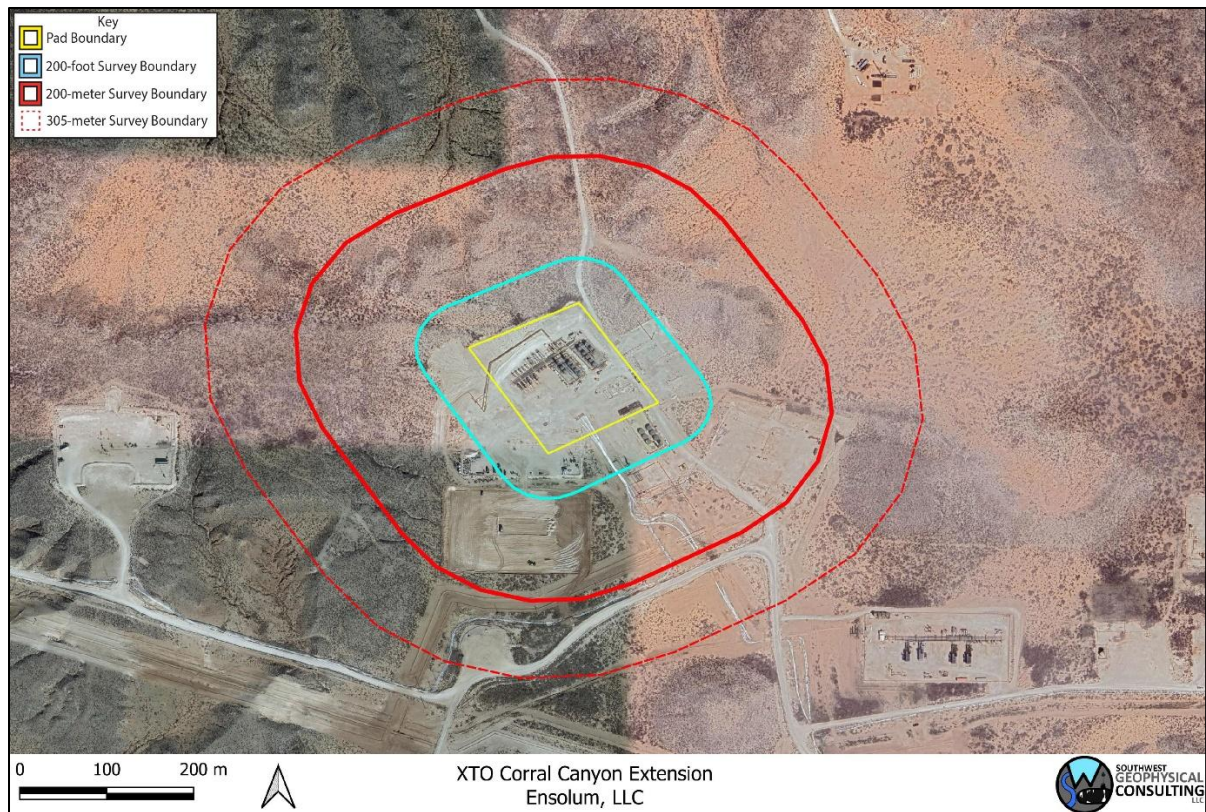


Figure 4: Surface survey overview. Background image credit: Google Earth. Image date: March 20, 2023. Datum: WGS-84.

The resolution of the orthoimagery is clear enough that features as small as 10 centimeters can be positively identified in most circumstances. Occasionally there are ambiguous features identified during an aerial survey that will need to be checked in the field if they are impacted by the proposed remediation efforts. Specifically, it is difficult to tell the difference between solution tubes, abandoned uncased well bores, and some burrows in drone imagery. If an ambiguous feature is located during imagery analysis, it is marked with a yellow dot in **Figure 6**. If a feature of any likelihood is subsequently verified in the field prior to publication of the report, the dot will be changed to a red triangle if confirmed as a karst feature or deleted if not.

The imagery for this study was collected via aerial survey by Pat Lagodney of SWCA on November 16 and 21, 2025. Surface karst features may have developed after these dates and will not be noted in this report. Imagery analysis was completed by Britt Bommer of Southwest Geophysical Consulting on December 1, 2025.



### 2.3.2 Geophysical Survey

For this survey, an Advanced Geosciences Inc. (AGI) SuperSting™ Wifi R8 with an 8-channel switchbox, a 28-electrode line of 40-centimeter-long (1.3 feet) stainless-steel electrodes, and a tablet controller were used to image the subsurface. The Spill Delineation Boundary provided by the client was used to plan the resistivity lines and define the survey boundaries. The XCCX survey consisted of two resistivity lines in a dipole-dipole configuration, with one 28-electrode line laid out west to east (XCCX01) and a second 28-electrode line laid out south to north (XCCX02) at 5-meter electrode spacing, resulting in two 135-meter-long lines. (Figure 5, Table 1).

A preconfigured command file was used to run the data collection (DDSG28) which consisted of a dipole-dipole strong gradient survey. This electrode configuration provided a depth of investigation of up to 31 meters (102 feet) in this location at a resolution of 2.5 to 3.0 meters (8.2 to 9.8 feet) near the surface. A Leica GS18 GPS was used to record electrode locations and elevations. On this survey, the estimated horizontal error mean was 7 cm (2.75 inches), and the estimated vertical error mean was 12 cm (4.7 inches).

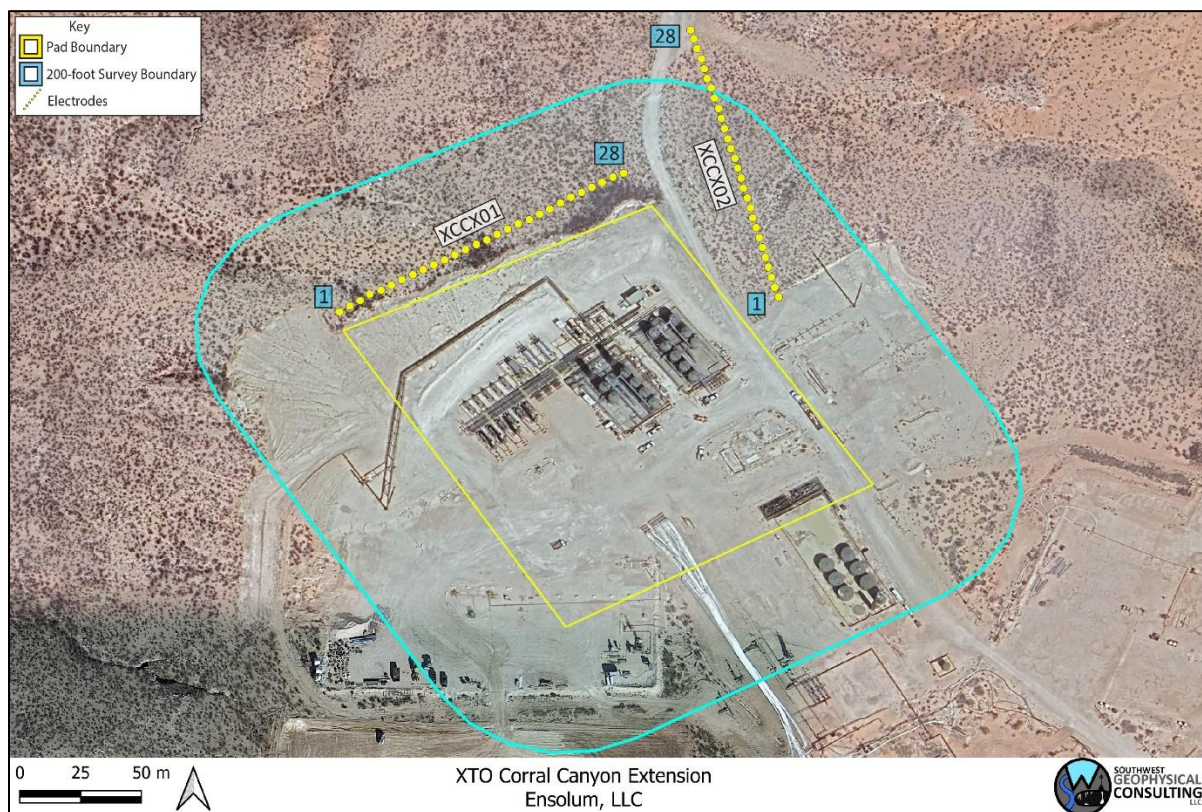


Figure 5: Geophysical survey overview. Both survey lines were conducted with 28 electrodes at 5-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.



**Table 1** provides basic line data. Detailed information including electrode number, location in latitude/longitude (decimal degree format), and elevation in meters can be found in the accompanying data files.

**Table 1: Survey Line Data Table.** The .kmz file contains all the points for the survey line listed in the file name. These data are available in the accompanying files XCCX\_ERI\_Points.xlsx and ENS-029-20251017\_XCCX\_Data\_Files.kmz.

File Name:	Completed By:	Date:
XCCX01.kmz	Steven Kesler – Field Geologist Michael Jones – Field Geologist Aaron Beirl – Field Geologist	11/18/2025
XCCX02.kmz		11/18/2025

EarthImager™ 2D software was used to download and process the data and to provide the model used to make our interpretations. The design of the survey and the orientation of each of the lines provides the information necessary to make the determination of “stable” or “unstable” ground at this site.

A typical starting model was used for the data processing due to the two-layer model of the geology in the area; specifically, generally high-resistivity gypsum and dolomite at the surface and low-resistivity saturated gypsum and dolomite bedrock at depth. The starting model used was “average apparent resistivity” and a default inversion setting of “surface,” with a minimum apparent resistivity set to 0.1 Ohm-meters (Ohm-m or  $\Omega$ -m) and a max apparent resistivity set to 100,000  $\Omega$ -m (**Table 2**).

**Table 2: Software Information and Settings**

Software Name:	EarthImager™ 2D
Version:	2.4.4.649
Starting Model:	Average Apparent Resistivity
Default Inversion Settings:	Surface
Changes to Default Inversion Settings:	Max Apparent Resistivity = 100 k $\Omega$ -m Min Apparent Resistivity = 0.1 $\Omega$ -m

**Note:** Raw data files (.dat files for EarthImager™ 2D) and processed data (.trn files, terrain files for surface correction in EarthImager™ 2D and .out files, the processed .dat files) are available upon request.

All resistivity field work, including setup, stow, and travel, was completed by Steven Kesler, Michael Jones, and Aaron Beirl on November 18, 2025.

### 3.0 RESULTS

#### 3.1 Surface Karst Survey

The desk study and surface karst survey showed no surface karst features located within the 200-meter (656-foot)<sup>[1]</sup> survey area surrounding the spill delineation boundary (Figure 6).

No springs exist within the 305-meter (1,000-foot)<sup>[1]</sup> survey boundary (Figure 6).

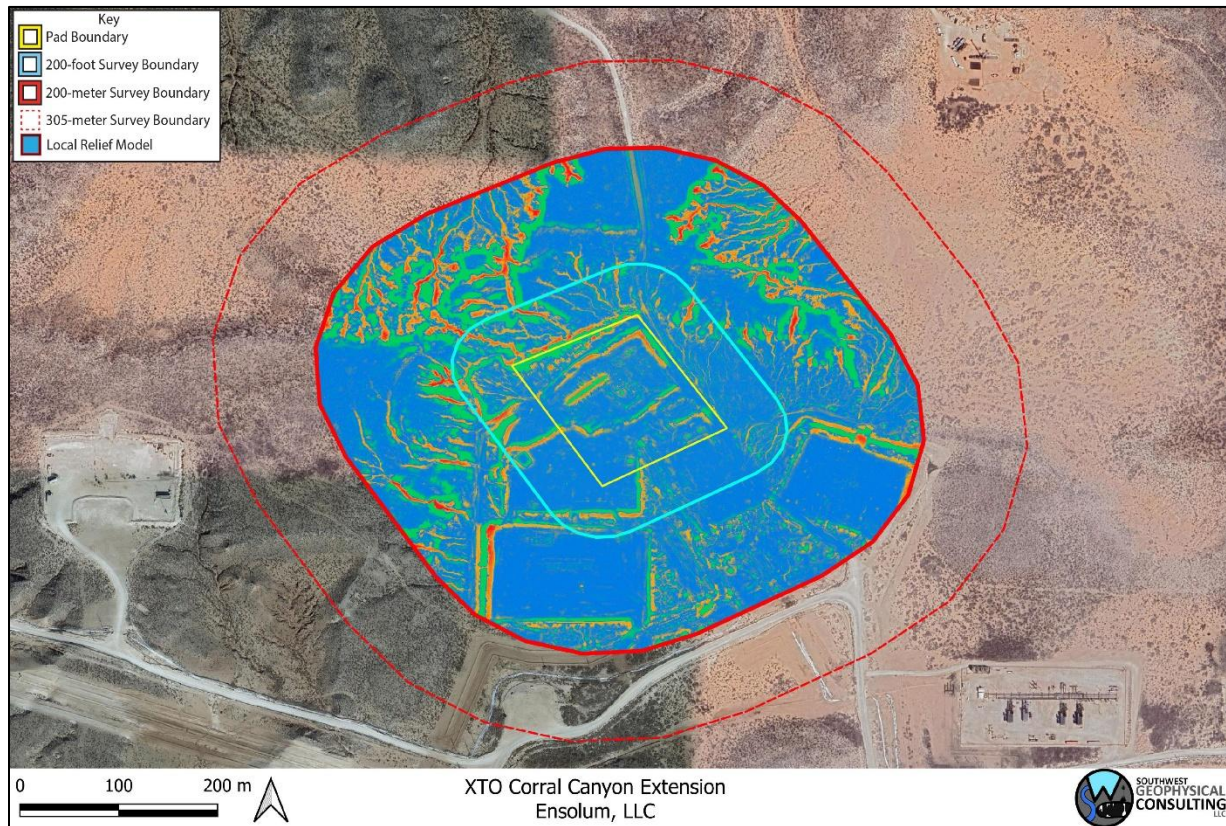


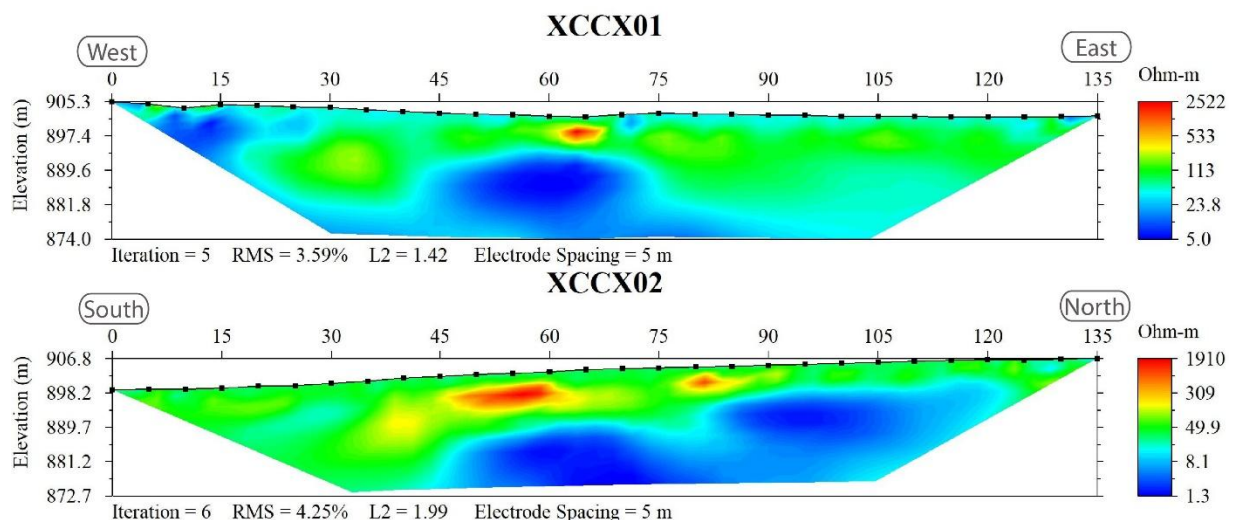
Figure 6: Surface karst survey results. Background image credit: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.

Caution should be exercised while operating in or around all karst-related features due to the possibility of near-surface voids. Employing a BLM-CFO-approved karst monitor on site during these activities should be considered.

### 3.2 Geophysical Survey

Electrical resistivity tomography forms images of the subsurface by causing a current to flow through the rock and soil and then measuring the resistance of these materials as the current flows through them. This measurement is taken many times and the resulting data, once processed, is used to produce a model of the subsurface (**Figure 7**). This model is produced using "non-unique" solutions, which means that there are many models and interpretations which will satisfy the data. Using experience and knowledge of the local geology, a high-confidence model can be established and used to develop an accurate understanding of what lies below the surface. This survey was conducted with the express purpose of locating subsurface voids and does not purport to find paleokarst (old, non-active karst features that have been filled in with sand and sediment) or nascent karst features below the resolution limit of the survey.

The results of this study indicate a moderately well-layered geologic system with low resistivities between 1.3 and 2522 Ohm-m (**Figure 7**). Please keep in mind when viewing the 2D inverted resistivity sections that color maps can be widely different for each view. Always check the color map located on the right side of the image when viewing the 2D images to ensure you understand the range of resistivities presented. Distances along the top and depths along the left side are in meters. The color map along the right side is in Ohm-m. Due to the nature of the survey, shallower zones have higher resolution between electrodes than deeper zones; therefore, small features at depth will not be visible.



**Figure 7: 2D inverted resistivity sections XCCX01 and XCCX02. Reds and oranges indicate higher resistivity values. Yellows and greens are medium-resistivity values. Blues are low-resistivity values. Please note that the color scale is relative.**

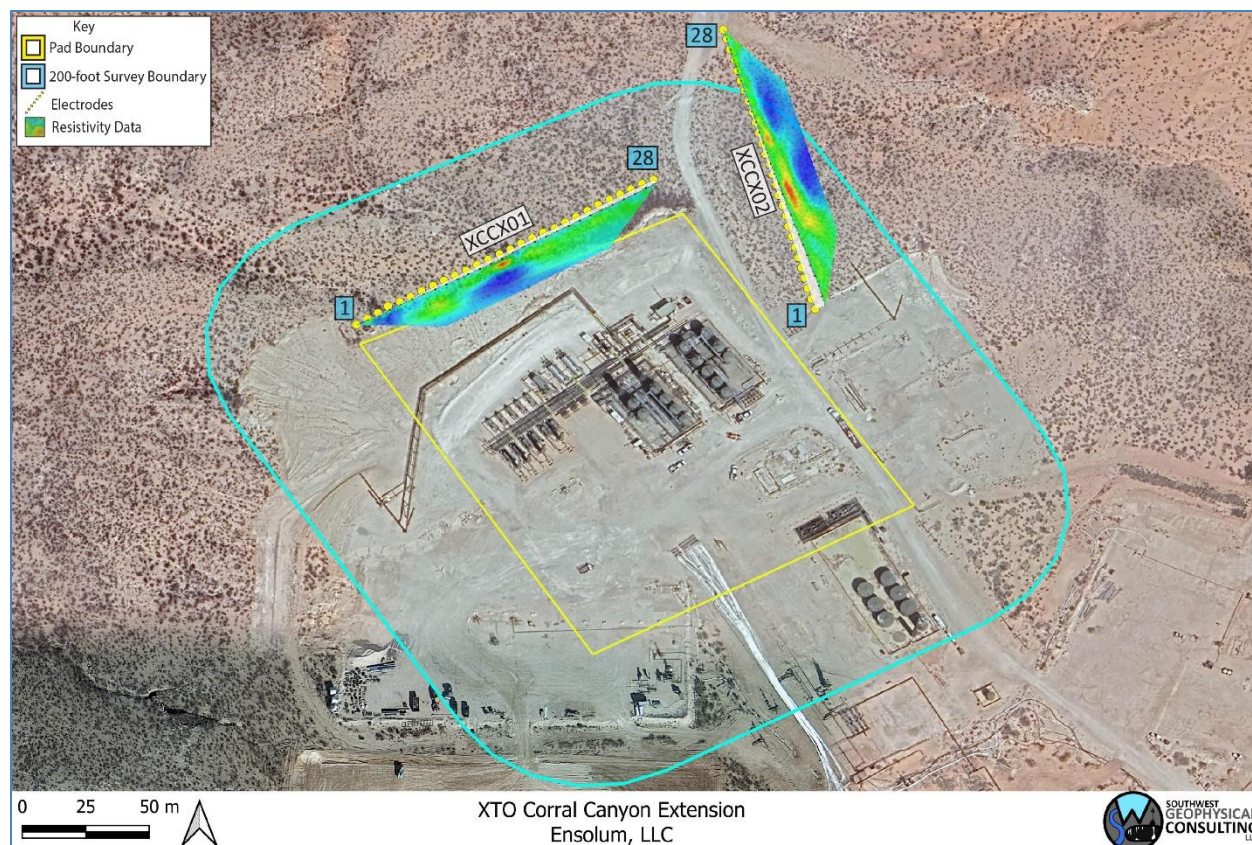


#### 4.0 DISCUSSION

No surface karst features exist within 200 meters of the spill delineation boundary.

No anomalies consistent with air-filled subsurface voids are found within the XCCX survey area. Small solutionally enlarged voids or fractures at or near the resolution limit of the survey (2.5 – 3.0 meters) may be present. Areas of high-resistivity (reds and oranges) near the surface are interpreted as dry gypsite soils and gypsum bedrock of the Rustler Formation<sup>[17]</sup> (**Figure 7** and **Figure 8**). Low-resistivity areas between 15 – 20 Ohm-m may either represent fluid from the brine release, surface-to-subsurface hydrologic pathways, or a layer of either clays and halite lenses or moist or saturated layers within the Rustler Formation (**Figure 7**).

Please remember that these are interpretations made from knowledge of the local subsurface materials and experience. **They remain interpretations until verified by geotechnical methods.** Employing a BLM-CFO-approved karst monitor on site during any drilling and/or remediation activities should be considered.



**Figure 8: Data overlay.** Colored trapezoids are the 2D inverted resistivity lines. Background image credit: Google Earth. Image date: March 20, 2023.

Fracture sets within the subsurface can act as hydrologic pathways to the water table. Rapid dissolution of gypsum can occur along these pathways creating solution-enlarged fractures, and in some cases, voids within months to years. For this reason, this survey is valid only for this remediation event.

Within karst terrains like the project site, small air- or sediment-filled voids and/or brecciated zones and solutionally enlarged fractures that are below the resolution limit of the survey (2.5–3.0 meters) may exist; these may be encountered during excavation, and if so, should be evaluated by a karst specialist prior to continued work.

## 5.0 SUMMARY

- **The XCCX survey contains no surface karst features within 200 feet (61 meters) of the spill delineation boundary.**
- No surface karst feature exists within the 200-meter survey boundary and no springs are noted within the 305-meter survey boundary.
- **No shallow anomalies interpreted as large voids or related karst features that would present a danger to equipment operators are located within the geophysical survey area.**
- Intercepting a void during remediation is unlikely, but still possible. Small voids or solutionally enlarged fractures below the resolution limit of the survey may be encountered.
- **Moderately well-layered stratigraphy is interpreted to exist beneath the geophysical survey line, indicating stable ground in the area of the subsurface investigation.**
- When conducting any remediation activities in this area, employing a BLM-CFO approved karst monitor on site should be considered.

## 6.0 DISCLOSURE STATEMENT

Karst occurrence zones are prone to rapid karst formation and warrant careful planning and engineering to mitigate karst-forming processes that could be accelerated by removal of surface cover or the vibrations associated with heavy equipment used in the remediation process.

Mitigation measures for any karst features revealed during excavation shall be approved by the Bureau of Land Management – Carlsbad Field Office and follow the Natural Resources Conservation Service Conservation Practice Standard for Karst Sinkhole Treatment, Code 527, or the Bureau of Land Management Cave and Karst Management Handbook, H-8380-1.

Vigilance during remediation activities is paramount. If voids are encountered during excavation, contact the Bureau of Land Management Karst Division at (575) 234-5972, the New Mexico State Land Office Surface Resources Division at (505) 827-5768, or a BLM-CFO approved karst contractor and request an on-site investigation from a karst expert if one is not already on site. A karst consultant can generally be available in Eddy County within five hours.

Approved karst monitors should have karst feature identification training, at least two years of supervised experience identifying karst features, wilderness first aid training, SRT training, confined space training, gas monitor training, and a minimum of SPAR cave rescue training through NCRC. They should have with them the proper gear and be prepared both physically and mentally to enter a collapse feature within minutes to perform a rescue if needed. Monitoring services with qualified karst monitors, as well as cave surveys and geophysical surveys, are available from Southwest Geophysical Consulting.



Under no circumstances should an untrained, inexperienced person enter a cave, pit, sinkhole, or collapse feature. All field employees of Southwest Geophysical Consulting have extensive caving experience and the ability to determine whether entry into a karst feature is safe or presents a hazard. In the event it is necessary to enter a karst feature, Southwest Geophysical Consulting can provide these services on request.

Cave and karst resource inventory reports, karst feature investigations, and geophysical reports (along with the associated data files) commissioned at the request of the land manager should be submitted to BLM-CFO at [blm\\_nm\\_karst@blm.gov](mailto:blm_nm_karst@blm.gov).

Cave and karst resource inventory reports for the NMSLO should be submitted to the respective project manager.

Environmental karst reports should be submitted to the appropriate project manager at the New Mexico Oil Conservation Division.

## 7.0 REFERENCES

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**8.0 GLOSSARY OF TERMS**

AGI	Advanced Geosciences Inc.
BLM-CFO	Bureau of Land Management - Carlsbad Field Office
brecciated	Fractured rock caused by faulting or collapse.
caprock-collapse sinkhole	Collapse of roof-spanning rock into a cave or void.
cave	Natural opening at the surface large enough for a person to enter.
cover-collapse sinkhole	Collapse of roof-spanning soil or clay ground cover into a subsurface void.
ERI	Electrical Resistivity Imaging
GPS	Global Positioning System
grike	A solutionally enlarged, vertical, or sub-vertical joint or fracture.
(H)	High confidence modifier for a PKF. This is typically reserved for a feature that is definitely karst but has not been confirmed in the field.
HKOZ	High Karst Occurrence Zone
karst	A landscape containing solutional features such as caves, sinkholes, swallets, and springs.
(L)	Low confidence modifier for a PKF. This is typically a feature that cannot be ruled out as karst but is most likely NOT karst related. This modifier may also be used for pseudokarst features.
(M)	Medium confidence modifier for PKF. This is an ambiguous feature that can't be positively identified as karst without a field visit (e.g., burrows, abandoned unlined wells, solution tubes, pseudokarst).
MKOZ	Medium Karst Occurrence Zone
NCRC	National Cave Rescue Commission
NKF	Non-karst feature. Used for features originally identified as PKF that have been subsequently identified in the field as non-karst related. This term may also be used for pseudokarst features.
NMSLO	New Mexico State Land Office
Ohm-m	Ohm-meter, a unit of measurement for resistivity. Sometimes abbreviated $\Omega$ -m.
paleokarst	Previously formed karst features that have been filled in by erosion and/or deposition of minerals.
Pat	Permian Artesia Group
Pc	Permian Capitan Formation
Pcs	Permian Castile Formation
Pdl	Permian Dewey Lake Formation
PKF	Possible karst feature. This term is reserved for features identified in satellite or aerial imagery that have NOT been visited in the

	field. Further modifiers include (H) for high confidence, (M) for medium confidence, and (L) for low confidence. These confidence levels are based on field experience.
PLSS	Public Land Survey System
Pqg	Permian Queen/Greyburg Formation
Pru	Permian Rustler Formation
pseudokarst	Karst-like features (sinkholes, conduits, voids etc.) that are not formed by dissolution. These types of features include soil piping, lava tubes, and some cover-collapse and suffosion sinkholes.
Psl	Permian Salado Formation
Psr	Permian Seven Rivers Formation
Pt	Permian Tansill Formation
Py	Permian Yates Formation
Qal	Quaternary alluvium
Qe	Quaternary eolian deposits
Qp	Quaternary piedmont deposits
Qpl	Quaternary playa lake deposits
RKF	Recognized karst feature. This term is reserved for karst features that have been physically verified in the field.
SPAR	Small Party Assisted Rescue
sUAS	Small, uncrewed aerial system
suffosion sinkhole	Raveling of soil into a pre-existing void or fracture.
swallet	A natural opening in the surface, too small for a person, that drains water to an aquifer. Some are "open," meaning a void can be seen below; some are "closed," meaning they are full of sediment.
SWG	Southwest Geophysical Consulting, LLC
UTM	Universal Transverse Mercator (projected coordinates)
(V)	Field verified modifier for a RKF. This indicates that the feature has been visited by a qualified karst professional in the field and fully identified
WGS	World Geodetic System (geographic coordinates)

## 9.0 ATTESTATION

### David D. Decker, PhD, PG, CPG

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## CERTIFICATE OF AUTHOR

I, David D. Decker, a Licensed Professional Geologist and a Certified Professional Geologist, do certify that:

- I am currently employed as a consulting geologist in the specialty of caves and karst with an office address of 5117 Fairfax Dr. NW, Albuquerque, NM, USA, 87114.
- I graduated with a Master of Science in Applied Physics with a specialization in Sensor Systems from the Naval Post Graduate School in Monterey, California, in 2003, and a Doctor of Philosophy in Earth and Planetary Sciences from the University of New Mexico, Albuquerque, New Mexico, in 2018.
- I am a Licensed Professional Geologist in the State of Texas, USA (PG-15242) and have been since 2021. I am a Certified Professional Geologist through the American Institute of Professional Geologists (CPG-12123) and have been since 2021.
- I have been employed as a geologist continuously since 2016. I was previously employed as a Fire Controlman, Naval Flight Officer, and Aerospace Engineering Duty Officer in the U.S. Navy and operated, maintained, and installed various sensor systems including magnetic, electromagnetic, radar, communications, and acoustic systems in various capacities from 1986 through 2010.
- I have been involved in various aspects of cave and karst studies continuously since 1985, including exploration, mapping, and scientific studies.
- I have read the definition of “qualified karst professional” set out in the ASTM Standard Practice for Preliminary Karst Terrain Assessment for Site Development (ASTM E-1527). I meet the definition of “qualified professional” for the purposes of this standard.
- I am responsible for the content, compilation, and editing of all sections of report number ENS-029-20251017 entitled, “Environmental Karst Study Report, XTO Corral Canyon Extension, Eddy County, New Mexico.” I or a duly authorized and qualified representative of Southwest Geophysical Consulting, LLC, have personally visited this site and/or reviewed the aerial imagery on the date or dates mentioned in section **2.3 Description of Survey**.



- I have no prior involvement nor monetary interest in the described property or project, save for my fee for conducting this investigation and providing the report.

Dated in Albuquerque, New Mexico, December 15, 2025.



David D. Decker  
PhD, CPG-12123





## APPENDIX B

### Photographic Log

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**Photographic Log**  
 XTO Energy, Inc  
 Corral Canyon Expansion  
 nAPP2526633829



Photograph: 1                      Date: 9/29/2025  
 Description: Initial release with referenced containment  
 View: Northeast



Photograph: 2                      Date: 9/29/2025  
 Description: Initial release with referenced containment  
 View: South



Photograph: 3                      Date: 10/6/2025  
 Description: Delineation activities  
 View: Southwest

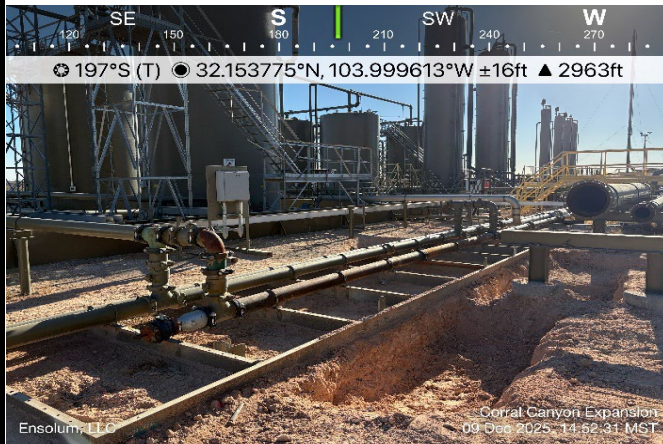


Photograph: 4                      Date: 10/6/2025  
 Description: Delineation activities; near BH01  
 View: Southwest





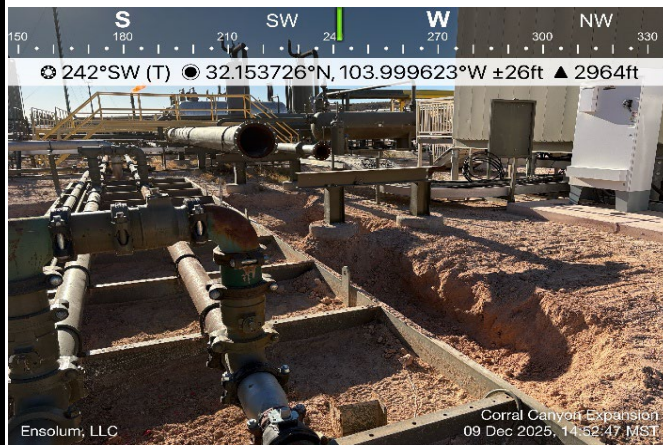
**Photographic Log**  
XTO Energy, Inc  
Corral Canyon Expansion  
nAPP2526633829



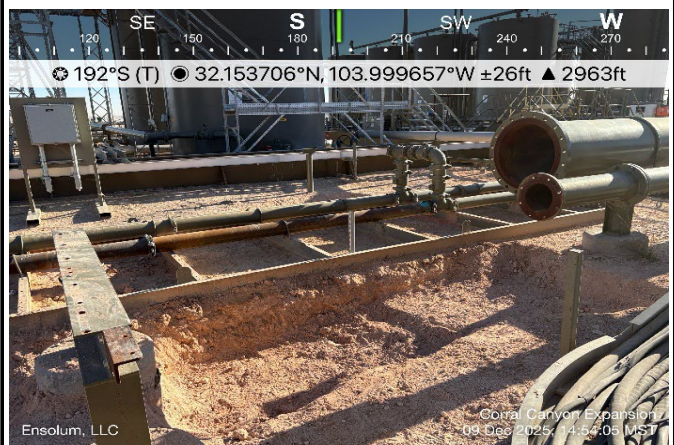
Photograph: 5 Date: 12/9/2025  
Description: Final excavation extent  
View: South



Photograph: 6 Date: 12/9/2025  
Description: Final excavation extent  
View: Southwest



Photograph: 7 Date: 12/9/2025  
Description: Final excavation extent  
View: Southwest



Photograph: 8 Date: 12/9/2025  
Description: Final excavation extent  
View: South






## APPENDIX C

### Lithologic Soil Sampling Logs

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 <b>ENSOLUM</b>		Sample Name: BH01		Date: 10/06/2025				
		Site Name: Corral Canyon Expansion						
		Incident Number: nAPP2526633829						
		Job Number: 03C81558748						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.153706, -103.999629			Logged By: Evan Roe		Method: Hand Auger			
			Hole Diameter: 3.5 inch		Total Depth: 4 feet			
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 correction factor of 40% was included for chlorides.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Drv	873	0.8	N	BH01	0.5	0	CCHE	(0-3.5') CALICHE. Light brown. Uniform with stones. No staining or odor.
Drv	957	0.2	N	BH01	1	1		
Drv	1,131	0.7	N		2	2		
Drv	655	0.6	N		3	3		
Drv	957	0.0	N		3.5		SM	(3.5-4') SILTY SAND. Light brown. Uniform. No staining or odor.
Drv	1,131	0.9	N	BH01	4	4		
Final Depth @ 4 feet								



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Tracy Hillard

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/17/2025 9:43:13 AM

## JOB DESCRIPTION

CORRAL CANYON EXPANSION

03C1558748

## JOB NUMBER

890-9201-1

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  
12/17/2025 9:43:13 AM

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

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Laboratory Job ID: 890-9201-1  
SDG: 03C1558748

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Definitions/Glossary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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: CORRAL CANYON EXPANSION

Job ID: 890-9201-1

**Job ID: 890-9201-1**

**Eurofins Carlsbad**

### Job Narrative 890-9201-1

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 12/10/2025 8:05 AM. 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 1.8°C.

### Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: CS 02 (890-9201-1), CS 03 (890-9201-2), SW 01 (890-9201-3) and SS 05 (890-9201-4).

### GC VOA

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: CS 02 (890-9201-1) and SW 01 (890-9201-3). 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: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Client Sample ID: CS 02

Lab Sample ID: 890-9201-1

Date Collected: 12/09/25 13:59

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: 1

## 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		12/11/25 13:06	12/15/25 13:16	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/11/25 13:06	12/15/25 13:16	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/11/25 13:06	12/15/25 13:16	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/11/25 13:06	12/15/25 13:16	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/11/25 13:06	12/15/25 13:16	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/11/25 13:06	12/15/25 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	12/11/25 13:06	12/15/25 13:16	1
1,4-Difluorobenzene (Surr)	89		70 - 130	12/11/25 13:06	12/15/25 13:16	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			12/15/25 13:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	57.9		49.8	mg/Kg			12/17/25 02:36	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	<49.8	U	49.8	mg/Kg		12/10/25 16:49	12/17/25 02:36	1
Diesel Range Organics (Over C10-C28)	57.9		49.8	mg/Kg		12/10/25 16:49	12/17/25 02:36	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/10/25 16:49	12/17/25 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	12/10/25 16:49	12/17/25 02:36	1
o-Terphenyl	141	S1+	70 - 130	12/10/25 16:49	12/17/25 02:36	1

## Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		9.92	mg/Kg			12/15/25 19:44	1

Client Sample ID: CS 03

Lab Sample ID: 890-9201-2

Date Collected: 12/09/25 14:01

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: 1

## 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		12/11/25 13:06	12/15/25 13:36	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 13:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 13:36	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/11/25 13:06	12/15/25 13:36	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 13:36	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/11/25 13:06	12/15/25 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	12/11/25 13:06	12/15/25 13:36	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Client Sample ID: CS 03

Lab Sample ID: 890-9201-2

Date Collected: 12/09/25 14:01

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	12/11/25 13:06	12/15/25 13:36	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			12/15/25 13:36	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			12/17/25 02:49	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	49.9	mg/Kg		12/10/25 16:49	12/17/25 02:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/10/25 16:49	12/17/25 02:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/10/25 16:49	12/17/25 02:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			12/10/25 16:49	12/17/25 02:49	1
o-Terphenyl	120		70 - 130			12/10/25 16:49	12/17/25 02:49	1

## Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		49.9	mg/Kg			12/15/25 19:49	5

Client Sample ID: SW 01

Lab Sample ID: 890-9201-3

Date Collected: 12/09/25 14:03

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: 0-1

## 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		12/11/25 13:06	12/15/25 13:57	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/11/25 13:06	12/15/25 13:57	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/11/25 13:06	12/15/25 13:57	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/11/25 13:06	12/15/25 13:57	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/11/25 13:06	12/15/25 13:57	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/11/25 13:06	12/15/25 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/11/25 13:06	12/15/25 13:57	1
1,4-Difluorobenzene (Surr)	94		70 - 130	12/11/25 13:06	12/15/25 13:57	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			12/15/25 13:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	150		50.0	mg/Kg			12/17/25 03:04	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

## Client Sample ID: SW 01

Lab Sample ID: 890-9201-3

Date Collected: 12/09/25 14:03

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: 0-1

## 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	50.0	mg/Kg		12/10/25 16:49	12/17/25 03:04	1
Diesel Range Organics (Over C10-C28)	150		50.0	mg/Kg		12/10/25 16:49	12/17/25 03:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/10/25 16:49	12/17/25 03:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			12/10/25 16:49	12/17/25 03:04	1
o-Terphenyl	134	S1+	70 - 130			12/10/25 16:49	12/17/25 03:04	1

## Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	223		9.94	mg/Kg			12/15/25 19:54	1

## Client Sample ID: SS 05

Lab Sample ID: 890-9201-4

Date Collected: 12/09/25 14:38

Matrix: Solid

Date Received: 12/10/25 08:05

Sample Depth: SURFACE

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/11/25 13:06	12/15/25 14:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			12/11/25 13:06	12/15/25 14:17	1
1,4-Difluorobenzene (Surr)	91		70 - 130			12/11/25 13:06	12/15/25 14:17	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/15/25 14:17	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			12/17/25 03:18	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	49.9	mg/Kg		12/10/25 16:49	12/17/25 03:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/10/25 16:49	12/17/25 03:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/10/25 16:49	12/17/25 03:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			12/10/25 16:49	12/17/25 03:18	1
o-Terphenyl	123		70 - 130			12/10/25 16:49	12/17/25 03:18	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

**Client Sample ID: SS 05**  
Date Collected: 12/09/25 14:38  
Date Received: 12/10/25 08:05  
Sample Depth: SURFACE

**Lab Sample ID: 890-9201-4**  
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	213		9.90	mg/Kg			12/15/25 20:09	1	



## Surrogate Summary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

## 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)
880-65996-A-1-B MS	Matrix Spike	96	100
880-65996-A-1-C MSD	Matrix Spike Duplicate	93	96
890-9201-1	CS 02	103	89
890-9201-2	CS 03	100	92
890-9201-3	SW 01	97	94
890-9201-4	SS 05	96	91
LCS 880-126363/1-A	Lab Control Sample	98	97
LCSD 880-126363/2-A	Lab Control Sample Dup	98	99
MB 880-126363/5-A	Method Blank	102	83
<b>Surrogate Legend</b>			
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)
880-65958-A-30-B MS	Matrix Spike	125	125
880-65958-A-30-C MSD	Matrix Spike Duplicate	126	122
890-9201-1	CS 02	128	141 S1+
890-9201-2	CS 03	111	120
890-9201-3	SW 01	118	134 S1+
890-9201-4	SS 05	111	123
LCS 880-126292/2-A	Lab Control Sample	116	110
LCSD 880-126292/3-A	Lab Control Sample Dup	117	108
MB 880-126292/1-A	Method Blank	109	113
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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

Lab Sample ID: MB 880-126363/5-A

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126363

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 11:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 11:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 11:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/11/25 13:06	12/15/25 11:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/11/25 13:06	12/15/25 11:52	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/11/25 13:06	12/15/25 11:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/11/25 13:06	12/15/25 11:52	1
1,4-Difluorobenzene (Surr)	83		70 - 130	12/11/25 13:06	12/15/25 11:52	1

Lab Sample ID: LCS 880-126363/1-A

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126363

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09669		mg/Kg		97	70 - 130
Toluene	0.100	0.1010		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.1068		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2091		mg/Kg		105	70 - 130
o-Xylene	0.100	0.09961		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: LCSD 880-126363/2-A

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 126363

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09972		mg/Kg		100	70 - 130	3	35
Toluene	0.100	0.1013		mg/Kg		101	70 - 130	0	35
Ethylbenzene	0.100	0.1063		mg/Kg		106	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.2120		mg/Kg		106	70 - 130	1	35
o-Xylene	0.100	0.1010		mg/Kg		101	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 880-65996-A-1-B MS

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 126363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.09781		mg/Kg		98	70 - 130
Toluene	<0.00200	U	0.100	0.09798		mg/Kg		98	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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

Lab Sample ID: 880-65996-A-1-B MS

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 126363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.1029		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1999		mg/Kg		100	70 - 130
o-Xylene	<0.00200	U	0.100	0.09569		mg/Kg		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-65996-A-1-C MSD

Matrix: Solid

Analysis Batch: 126621

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 126363

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08563		mg/Kg		86	70 - 130	13	35
Toluene	<0.00200	U	0.100	0.08490		mg/Kg		85	70 - 130	14	35
Ethylbenzene	<0.00200	U	0.100	0.08719		mg/Kg		87	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1679		mg/Kg		84	70 - 130	17	35
o-Xylene	<0.00200	U	0.100	0.08196		mg/Kg		82	70 - 130	15	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-126292/1-A

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126292

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/10/25 16:49	12/16/25 21:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/10/25 16:49	12/16/25 21:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/10/25 16:49	12/16/25 21:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	12/10/25 16:49	12/16/25 21:52	1
o-Terphenyl	113		70 - 130	12/10/25 16:49	12/16/25 21:52	1

Lab Sample ID: LCS 880-126292/2-A

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	990.6		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	982.8		mg/Kg		98	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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

Lab Sample ID: LCS 880-126292/2-A

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126292

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-126292/3-A

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 126292

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	999.7		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	962.0		mg/Kg		96	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 880-65958-A-30-B MS

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 126292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	865.3		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	823.4		mg/Kg		83	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	125		70 - 130

Lab Sample ID: 880-65958-A-30-C MSD

Matrix: Solid

Analysis Batch: 126782

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 126292

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	<49.9	U	998	841.8		mg/Kg		84	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	819.6		mg/Kg		82	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	126		70 - 130
o-Terphenyl	122		70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-126404/1-A Matrix: Solid Analysis Batch: 126480										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			12/15/25 19:09	1			

Lab Sample ID: LCS 880-126404/2-A Matrix: Solid Analysis Batch: 126480										Client Sample ID: Lab Control Sample Prep Type: Soluble	
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	241.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-126404/3-A Matrix: Solid Analysis Batch: 126480										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	241.3		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-65981-A-54-C MS Matrix: Solid Analysis Batch: 126480										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	117		251	370.5		mg/Kg		101	90 - 110		

Lab Sample ID: 880-65981-A-54-D MSD Matrix: Solid Analysis Batch: 126480										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	117		251	371.3		mg/Kg		101	90 - 110	0	20

## QC Association Summary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

## GC VOA

## Prep Batch: 126363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	5035	
890-9201-2	CS 03	Total/NA	Solid	5035	
890-9201-3	SW 01	Total/NA	Solid	5035	
890-9201-4	SS 05	Total/NA	Solid	5035	
MB 880-126363/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-126363/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-126363/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-65996-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-65996-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 126621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	8021B	126363
890-9201-2	CS 03	Total/NA	Solid	8021B	126363
890-9201-3	SW 01	Total/NA	Solid	8021B	126363
890-9201-4	SS 05	Total/NA	Solid	8021B	126363
MB 880-126363/5-A	Method Blank	Total/NA	Solid	8021B	126363
LCS 880-126363/1-A	Lab Control Sample	Total/NA	Solid	8021B	126363
LCSD 880-126363/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	126363
880-65996-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	126363
880-65996-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	126363

## Analysis Batch: 126746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	Total BTEX	
890-9201-2	CS 03	Total/NA	Solid	Total BTEX	
890-9201-3	SW 01	Total/NA	Solid	Total BTEX	
890-9201-4	SS 05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 126292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	8015NM Prep	
890-9201-2	CS 03	Total/NA	Solid	8015NM Prep	
890-9201-3	SW 01	Total/NA	Solid	8015NM Prep	
890-9201-4	SS 05	Total/NA	Solid	8015NM Prep	
MB 880-126292/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-126292/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-126292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-65958-A-30-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-65958-A-30-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 126782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	8015B NM	126292
890-9201-2	CS 03	Total/NA	Solid	8015B NM	126292
890-9201-3	SW 01	Total/NA	Solid	8015B NM	126292
890-9201-4	SS 05	Total/NA	Solid	8015B NM	126292
MB 880-126292/1-A	Method Blank	Total/NA	Solid	8015B NM	126292
LCS 880-126292/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	126292

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## QC Association Summary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

## GC Semi VOA (Continued)

## Analysis Batch: 126782 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-126292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	126292
880-65958-A-30-B MS	Matrix Spike	Total/NA	Solid	8015B NM	126292
880-65958-A-30-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	126292

## Analysis Batch: 126949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Total/NA	Solid	8015 NM	
890-9201-2	CS 03	Total/NA	Solid	8015 NM	
890-9201-3	SW 01	Total/NA	Solid	8015 NM	
890-9201-4	SS 05	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 126404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Soluble	Solid	DI Leach	
890-9201-2	CS 03	Soluble	Solid	DI Leach	
890-9201-3	SW 01	Soluble	Solid	DI Leach	
890-9201-4	SS 05	Soluble	Solid	DI Leach	
MB 880-126404/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-126404/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-126404/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-65981-A-54-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-65981-A-54-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 126480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9201-1	CS 02	Soluble	Solid	300.0	126404
890-9201-2	CS 03	Soluble	Solid	300.0	126404
890-9201-3	SW 01	Soluble	Solid	300.0	126404
890-9201-4	SS 05	Soluble	Solid	300.0	126404
MB 880-126404/1-A	Method Blank	Soluble	Solid	300.0	126404
LCS 880-126404/2-A	Lab Control Sample	Soluble	Solid	300.0	126404
LCSD 880-126404/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	126404
880-65981-A-54-C MS	Matrix Spike	Soluble	Solid	300.0	126404
880-65981-A-54-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	126404

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Lab Chronicle

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Client Sample ID: CS 02

Date Collected: 12/09/25 13:59

Date Received: 12/10/25 08:05

Lab Sample ID: 890-9201-1

Matrix: Solid

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	126363	12/11/25 13:06	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126621	12/15/25 13:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			126746	12/15/25 13:16	SA	EET MID
Total/NA	Analysis	8015 NM		1			126949	12/17/25 02:36	SA	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10.00 mL	126292	12/10/25 16:49	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	126782	12/17/25 02:36	FC	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	126404	12/11/25 15:07	SA	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	126480	12/15/25 19:44	CS	EET MID

Client Sample ID: CS 03

Date Collected: 12/09/25 14:01

Date Received: 12/10/25 08:05

Lab Sample ID: 890-9201-2

Matrix: Solid

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	126363	12/11/25 13:06	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126621	12/15/25 13:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			126746	12/15/25 13:36	SA	EET MID
Total/NA	Analysis	8015 NM		1			126949	12/17/25 02:49	SA	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10.00 mL	126292	12/10/25 16:49	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	126782	12/17/25 02:49	FC	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	126404	12/11/25 15:07	SA	EET MID
Soluble	Analysis	300.0		5	10 mL	10 mL	126480	12/15/25 19:49	CS	EET MID

Client Sample ID: SW 01

Date Collected: 12/09/25 14:03

Date Received: 12/10/25 08:05

Lab Sample ID: 890-9201-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	126363	12/11/25 13:06	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126621	12/15/25 13:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			126746	12/15/25 13:57	SA	EET MID
Total/NA	Analysis	8015 NM		1			126949	12/17/25 03:04	SA	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10.00 mL	126292	12/10/25 16:49	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	126782	12/17/25 03:04	FC	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	126404	12/11/25 15:07	SA	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	126480	12/15/25 19:54	CS	EET MID

Client Sample ID: SS 05

Date Collected: 12/09/25 14:38

Date Received: 12/10/25 08:05

Lab Sample ID: 890-9201-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	126363	12/11/25 13:06	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	126621	12/15/25 14:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			126746	12/15/25 14:17	SA	EET MID

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Lab Chronicle

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Client Sample ID: SS 05

Date Collected: 12/09/25 14:38

Date Received: 12/10/25 08:05

Lab Sample ID: 890-9201-4

Matrix: Solid

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			126949	12/17/25 03:18	SA	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10.00 mL	126292	12/10/25 16:49	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	126782	12/17/25 03:18	FC	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	126404	12/11/25 15:07	SA	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	126480	12/15/25 20:09	CS	EET MID

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

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Accreditation/Certification Summary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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

Method Summary

Client: Ensolum  
Project/Site: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

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: CORRAL CANYON EXPANSION

Job ID: 890-9201-1  
SDG: 03C1558748

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9201-1	CS 02	Solid	12/09/25 13:59	12/10/25 08:05	1
890-9201-2	CS 03	Solid	12/09/25 14:01	12/10/25 08:05	1
890-9201-3	SW 01	Solid	12/09/25 14:03	12/10/25 08:05	0-1
890-9201-4	SS 05	Solid	12/09/25 14:38	12/10/25 08:05	SURFACE

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Page 1 of 1  
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Work Order Comments	
<b>Program:</b> <b>UST/PST</b> <input type="checkbox"/> <b>RP</b> <input type="checkbox"/> <b>rownfields</b> <input type="checkbox"/> <b>RC</b> <input type="checkbox"/> <b>perfund</b> <input type="checkbox"/>	
<b>State of Project:</b>	
<b>Reporting:</b> Level II <input type="checkbox"/> Level III <input type="checkbox"/> <b>PST/UST</b> <input type="checkbox"/> <b>TRRP</b> <input type="checkbox"/> Level IV <input type="checkbox"/>	
<b>Deliverables:</b> <b>EDD</b> <input type="checkbox"/> <b>ADA/PT</b> <input type="checkbox"/> <b>Other:</b>	

JEST		Preservative Codes	
		None: NO	DI Water: H <sub>2</sub> O
		Cool: Cool	MeOH: Me
		HCL: HC	HNO <sub>3</sub> : HN
		H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
		H <sub>3</sub> PO <sub>4</sub> : HP	
		NaHSO <sub>4</sub> : NABIS	
		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	
		Zn Acetate+NaOH: Zn	
		NaOH+Ascorbic Acid: SAPC	

[illegible]

Mg	Mn	Mo	Ni	K	Se	Ag	SiO <sub>2</sub>	Na	Sr	Tl	Sn	U	V	Zn
i	Se	Ag	Tl	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.

(e)	Received by: (Signature)	Date/Time

## Eurofins Carlsbad

1089 N Canal St.

Carlsbad, NM 88220

Phone: 575-988-3199 Fax: 575-988-3199

## Chain of Custody Record



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-9244-1
Client Contact: Shipping/Receiving		Phone: N/A	E-Mail: Jessica.Kramer@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 #: 890-9201-1	Preservation Codes:
Address: 1211 W. Florida Ave.		Due Date Requested: 12/16/2025		Analysis Requested	
City: Midland		TAT Requested (days): N/A		Total Number of Containers	
State, Zip: TX, 79701		PO #: N/A		8015MOD_NM/8015NM_9_Prep(MOD) Full TPH	
Phone: 432-704-5440(Tel)		WO #: N/A		8015MOD_Calc	
Email: N/A		Project #: 89000110		300_ORGFM_28D/DI_LEACHChloride	
Project Name: CORRAL CANYON EXPANSION		SSOW#: N/A		8021B/5035FP_Calc(MOD) BTEX	
Site: N/A				Total BTEX_GCV	
				Special Instructions/Note:	
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=overstabil, BT=Tissue, A=Air)
CS 02 (890-9201-1)	12/9/25	13:59 Mountain	G	Solid	
CS 03 (890-9201-2)	12/9/25	14:01 Mountain	G	Solid	
SW 01 (890-9201-3)	12/9/25	14:03 Mountain	G	Solid	
SS 05 (890-9201-4)	12/9/25	14:38 Mountain	G	Solid	
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.					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Empty Kit Relinquished by:					
Relinquished by: <i>Sam</i>					
Relinquished by: <i>Sam</i>					
Relinquished by:					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Custody Seal No.: 14113 FR-8 (0.1)					
Cooler Temperature(s) °C and Other Remarks: 14/11/3					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months					
Special Instructions/QC Requirements:					
Time: Date: Method of Shipment:					
Received by: <i>SA</i> Date/Time: Company					
Received by: <i>SA</i> Date/Time: Company					
Received by: <i>SA</i> Date/Time: Company					
Cooler Temperature(s) °C and Other Remarks: 14/11/3					

Ver: 10/10/2024

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9201-1

SDG Number: 03C1558748

Login Number: 9201

List Number: 1

Creator: Bruns, Shannon

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9201-1

SDG Number: 03C1558748

Login Number: 9201

List Number: 2

Creator: Lee, Randall

List Source: Eurofins Midland

List Creation: 12/11/25 07:42 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	



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

October 13, 2025

ASHLEY HOLMES

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CORRAL CANYON EXPANSION

Enclosed are the results of analyses for samples received by the laboratory on 10/07/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM, LLC  
 ASHLEY HOLMES  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 -- SPILLS  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SS 01 SURFACE (H256244-01)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12	
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45	
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12	
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89	
Total BTEX	<0.300	0.300	10/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 70.4-141

Chloride, SM4500Cl-B		mg/kg	Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 73.2 % 52.4-130

Surrogate: 1-Chlorooctadecane 63.5 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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



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

**Analytical Results For:**

ENSOLUM, LLC  
 ASHLEY HOLMES  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 -- SPILLS  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SS 02 SURFACE (H256244-02)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12		
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45		
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12		
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89		
Total BTEX	<0.300	0.300	10/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 79.4 % 52.4-130

Surrogate: 1-Chlorooctadecane 71.2 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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



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

**Analytical Results For:**

ENSOLUM, LLC  
 ASHLEY HOLMES  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 -- SPILLS  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SS 03 SURFACE (H256244-03)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12		
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45		
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12		
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89		
Total BTEX	<0.300	0.300	10/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	1950	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	463	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 80.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 123 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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



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

**Analytical Results For:**

ENSOLUM, LLC  
 ASHLEY HOLMES  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 -- SPILLS  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SS 04 SURFACE (H256244-04)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12	
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45	
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12	
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89	
Total BTEX	<0.300	0.300	10/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 77.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 75.2 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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



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### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

---

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





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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page \_\_\_\_ of \_\_\_\_

<b>Company Name:</b> Ensolum, LLC		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																								
<b>Project Manager:</b> Tracy Hillard		<b>P.O. #:</b>																										
<b>Address:</b> 601 N Marientfeld Street, Suite 400		<b>Company:</b> XTO Energy, Inc																										
<b>City:</b> Midland		<b>Attn:</b> Colton Brown																										
<b>State:</b> TX <b>Zip:</b> 79701		<b>Address:</b> 3104 E Greene St																										
<b>Phone #:</b> 575-937-3906 <b>Fax #:</b>		<b>City:</b> Carlsbad																										
<b>Project #:</b> 03C1558748 <b>Project Owner:</b> XTO		<b>State:</b> NM <b>Zip:</b> 88220																										
<b>Project Name:</b> Corral Canyon Expansion		<b>Phone #:</b>																										
<b>Project Location:</b> 32.153769, -103.999739		<b>Fax #:</b>																										
<b>Sampler Name:</b> Evan Roe																												
<small>FOR LAB USE ONLY</small>																												
<b>Lab I.D.</b>	<b>Sample I.D.</b>	<b>Depth (feet)</b>	<b>(G)RAB OR (C)OMP.</b>	<b># CONTAINERS</b>	<b>MATRIX</b>			<b>PRESERV</b>	<b>SAMPLING</b>																			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
HS6244	1	SS 01	Surface	G 1										10-10-25	1045	✓	✓	✓										
	2	SS 02	Surface	G 1										#####	1050	✓	✓	✓										
	3	SS 03	Surface	G 1										#####	1152	✓	✓	✓										
	4	SS 04	Surface	G 1										#####	11338	✓	✓	✓										
<small>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 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 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.</small>																												
<b>Relinquished By:</b>		<b>Date:</b> 10-1-25	<b>Received By:</b>																									
<b>Relinquished By:</b>		<b>Date:</b> 10-1-25	<b>Received By:</b>																									
<b>Delivered By:</b> (Circle One)		<b>Observed Temp. °C</b> 3.3	<b>Sample Condition</b>	<b>CHECKED BY:</b> (Initials)																								
<b>Sampler - UPS - Bus - Other:</b>		<b>Corrected Temp. °C</b> 3.4	<b>Cool Intact</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>																								
<b>FORM-006 R 3.6 02/12/25</b>																												



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

October 13, 2025

TRACY HILLARD  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CORRAL CANYON EXPANSION

Enclosed are the results of analyses for samples received by the laboratory on 10/07/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

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



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

**Analytical Results For:**

ENSOLUM, LLC  
 TRACY HILLARD  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 ( SPILLS )  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH01 0.5' (H256245-01)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2025	ND	1.91	95.5	2.00	3.12	
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45	
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12	
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89	
Total BTX	<0.300	0.300	10/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 73.8 % 52.4-130

Surrogate: 1-Chlorooctadecane 69.2 % 39.9-141

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



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**Analytical Results For:**

ENSOLUM, LLC  
 TRACY HILLARD  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 ( SPILLS )  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH01 1' (H256245-02)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12	
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45	
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12	
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89	
Total BTEX	<0.300	0.300	10/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	10/08/2025	ND	416	104	400	0.00	

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 75.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 70.9 % 39.9-141

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



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**Analytical Results For:**

ENSOLUM, LLC  
 TRACY HILLARD  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 ( SPILLS )  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH01 4' (H256245-03)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12		
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45		
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12		
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89		
Total BTEX	<0.300	0.300	10/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	10/08/2025	ND	416	104	400	0.00		

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	<10.0	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 78.0 % 52.4-130

Surrogate: 1-Chlorooctadecane 73.0 % 39.9-141

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





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**Analytical Results For:**

ENSOLUM, LLC  
 TRACY HILLARD  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 10/07/2025  
 Reported: 10/13/2025  
 Project Name: CORRAL CANYON EXPANSION  
 Project Number: 03C1558748 ( SPILLS )  
 Project Location: XTO - 32153769-103.999739

Sampling Date: 10/06/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: CS01 0.5' (H256245-04)**

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	10/07/2025	ND	1.91	95.5	2.00	3.12	
Toluene*	<0.050	0.050	10/07/2025	ND	1.98	99.1	2.00	2.45	
Ethylbenzene*	<0.050	0.050	10/07/2025	ND	1.99	99.5	2.00	2.12	
Total Xylenes*	<0.150	0.150	10/07/2025	ND	6.17	103	6.00	1.89	
Total BTEX	<0.300	0.300	10/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3080	16.0	10/08/2025	ND	416	104	400	0.00		

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	10/08/2025	ND	197	98.4	200	0.0249	
DRO >C10-C28*	546	10.0	10/08/2025	ND	226	113	200	1.25	
EXT DRO >C28-C36	104	10.0	10/08/2025	ND					

Surrogate: 1-Chlorooctane 76.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 85.3 % 39.9-141

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\*=Accredited Analyte

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



---

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---

### Notes and Definitions

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

---

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page \_\_\_\_ of \_\_\_\_

<b>Company Name:</b> Ensolum, LLC		<b>P.O. #:</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
<b>Project Manager:</b> Tracy Hillard		<b>Company:</b> XTO Energy, Inc															
<b>Address:</b> 601 N Marientfeld Street, Suite 400		<b>Attn:</b> Colton Brown															
<b>City:</b> Midland		<b>Address:</b> 3104 E Greene St															
<b>Phone #:</b> 575-937-3906		<b>City:</b> Carlsbad															
<b>Fax #:</b>		<b>State:</b> NM															
<b>Project #:</b> 03C1558748		<b>Zip:</b> 88220															
<b>Project Name:</b> Corral Canyon Expansion		<b>Phone #:</b>															
<b>Project Location:</b> 32.153769, -103.999739		<b>Fax #:</b>															
<b>Sampler Name:</b> Evan Roe																	
FOR LAB USE ONLY																	
<b>Lab I.D.</b>	<b>Sample I.D.</b>	<b>Depth (feet)</b>	<b>(G)RAB OR (C)OMP.</b>	<b># CONTAINERS</b>	<b>MATRIX</b>	<b>PRESERV.</b>	<b>SAMPLING</b>										
					GROUNDWATER												
					WASTEWATER												
					SOIL												
					OIL												
					SLUDGE												
					OTHER :												
					ACID/BASE:												
					ICE / COOL												
					OTHER :												
					DATE	TIME											
					1015												
					1020												
					1315												
					1322												

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<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Verbal Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>All Results are emailed. Please provide Email address:</b> jreich@ensolum.com
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Incident Number:</b> nAPP252633829
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Cost Center:</b> 2125321001
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>GC/FM:</b> 48605000
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Turnaround Time:</b> <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Thermometer ID #140</b> <input type="checkbox"/> <b>Bacteria (only) Sample Condition</b>
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Correction Factor +0.3°C</b> <input type="checkbox"/> <b>Cool Intact</b> <input type="checkbox"/> <b>Observed Temp. °C</b>
<b>Relinquished By:</b>	<b>Date:</b> 12-1-25	<b>Received By:</b>	<b>Date:</b> 12-1-25	<b>Corrected Temp. °C</b> <input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> <input type="checkbox"/> <b>Corrected Temp. °C</b>



## APPENDIX E

### Spill Volume Calculation

---

<b>Location:</b>	<b>Corral Canyon Expansion</b>		
<b>Spill Date:</b>	<b>9/22/2025</b>		
<b>Incident #:</b>	<b>nAPP2526633829</b>		
<b>Area 1</b>			
Approximate Area =	21	sq. ft.	
Average Saturation (or depth) of spill =	6	inches	
Average Porosity Factor =	0.1		
VOLUME OF LEAK			
Total Crude Oil =		bbls	
Total Produced Water =	18.19	bbls	
<b>Area 2</b>			
Approximate Area =		sq. ft.	
Average Saturation (or depth) of spill =		inches	
VOLUME OF LEAK			
Total Crude Oil =		bbls	
Total Produced Water =		bbls	
<b>TOTAL VOLUME OF LEAK</b>			
Total Crude Oil =		bbls	
Total Produced Water =	18.19	bbls	
<b>TOTAL VOLUME RECOVERED</b>			
Total Crude Oil =		bbls	
Total Produced Water =	18	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 536467

**QUESTIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 536467
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2526633829
Incident Name	NAPP2526633829 CORRAL CANYON EXPANSION @ FAPP2123048204
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2123048204] Corral Canyon Expansion

**Location of Release Source***Please answer all the questions in this group.*

Site Name	CORRAL CANYON EXPANSION
Date Release Discovered	09/22/2025
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
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

**Nature and Volume of Release***Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.*

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Fitting   Produced Water   Released: 18 BBL   Recovered: 18 BBL   Lost: 0 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)	vlc clamp failed and spilled in containment and on the pad

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QUESTIONS, Page 2

Action 536467

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	536467
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

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

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 12/21/2025
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QUESTIONS, Page 3

Action 536467

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  536467
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Site Characterization</b>	
<i>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.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 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 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between ½ and 1 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

<b>Remediation Plan</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
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
<b>Soil Contamination Sampling:</b> (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	3080
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	650
GRO+DRO (EPA SW-846 Method 8015M)	546
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	09/29/2025
On what date will (or did) the final sampling or liner inspection occur	12/09/2025
On what date will (or was) the remediation complete(d)	12/09/2025
What is the estimated surface area (in square feet) that will be reclaimed	350
What is the estimated volume (in cubic yards) that will be reclaimed	15
What is the estimated surface area (in square feet) that will be remediated	350
What is the estimated volume (in cubic yards) that will be remediated	15
<i>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.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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Action 536467

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  536467
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	fEEM0112340644 R360 ARTESIA LLC LANDFARM
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 12/21/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5  
  
Action 536467

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  536467
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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



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Action 536467

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 536467
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	531659
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/10/2025
What was the (estimated) number of samples that were to be gathered	5
What was the sampling surface area in square feet	1000

**Remediation Closure Request**

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

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	350
What was the total volume (cubic yards) remediated	15
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	350
What was the total volume (in cubic yards) reclaimed	15
Summarize any additional remediation activities not included by answers (above)	The site was excavated and sampled between October 6 and December 9, 2025. Final excavation was 350 sq ft with approximately 15 cy of impacted soil removed. Laboratory analytical results for all confirmation soil samples indicated that all COC concentrations were compliant with Site Closure Criteria, and no further remediation was required. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2526633829.
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 12/21/2025

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Action 536467

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  536467
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 536467

**CONDITIONS**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	536467
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	Remediation closure is approved.	12/31/2025
michael.buchanan	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	12/31/2025
michael.buchanan	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	12/31/2025
michael.buchanan	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	12/31/2025
michael.buchanan	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	12/31/2025
michael.buchanan	Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and revegetation report will need to be submitted to the OCD via the Permitting website.	12/31/2025