



November 5, 2025

New Mexico Oil Conservation Division

New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Deferral Request
Corral Canyon 8 Satellite
Incident Number nAPP2501553916
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request*, describing delineation, excavation, and soil sampling activities, along with the results of an engineering evaluation and karst survey at the Corral Canyon 8 Satellite (Site). The purpose of the report is to describe release response activities following a release of produced water at the Site and support deferral of final remediation of Incident Number nAPP2501553916 until the Site is reconstructed and/or the facility pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The release location was initially reported to the New Mexico Oil Conservation Division (NMOCD) in Unit J, Section 8, Township 25 South, Range 29 East. After review of the release location coordinates and photographs provided by XTO, it was confirmed that the release occurred in Unit J and Unit K, Section 8, Township 25 South, Range 29 East, in Eddy County, New Mexico (32.142751° , -104.006738°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On January 14, 2025, corrosion on a produced water dump valve resulted in the release of 33 barrels (bbls) of produced water onto the pad surface and around active production equipment and surface pipelines. A vacuum truck was dispatched to the Site to recover free-standing fluids; 5 bbls of produced water were recovered. XTO reported the release to the NMOCD via Notification of Release (NOR) and Initial C-141 Application (C-141) on January 15, 2025, and the release was assigned Incident Number nAPP2501553916.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below and potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. On June 2, 1997, New Mexico Office of State Engineer (OSE) permitted

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well (C-02518) was advanced to a depth of 462 feet below ground surface (bgs) approximately 0.26 miles southeast of the Site. No moisture or groundwater was encountered during drilling activities. On April 19, 2021, an additional soil boring (C-04503) was drilled to a depth of 110 feet bgs approximately 0.80 miles southeast of the Site. The soil boring was dry, which provides additional support that groundwater beneath the Site is greater than 100 feet bgs. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash located approximately 780 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is 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 Bureau of Land Management (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 karst below the Site. A copy of the karst survey is included in Appendix B. Potential Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On January 17, 2025, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141, information provided by XTO, 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 during the site assessment, and a photographic log is included in Appendix C.

On January 29, 2025, Ensolum personnel conducted delineation activities to evaluate impacts to soil. Eight delineation soil samples (SS01 through SS08) were collected at a depth of 0.5 feet bgs. Delineation soil samples SS01 through SS05 were collected outside of the release extent to define the lateral extent of the release. Soil samples SS06 through SS08 were collected within the release extent to confirm the presence or absence of impacted soil. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The delineation soil sample locations were mapped utilizing a GPS unit and are depicted on Figure 2.

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The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method 4500.

Ensolum personnel returned to the Site on March 25, 2025, to conduct additional delineation activities. One borehole was advanced via core drill in the vicinity of soil sample SS07 to a total depth of 2 feet bgs. One delineation soil sample (SS07B) was collected at the terminal depth of the borehole. Delineation soil samples SS09 and SS10 were collected to further assess the release extent. Field screening results and observations from the boreholes was logged on a lithologic soil sampling log and is included in Appendix D. All delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results from delineation soil samples SS01 through SS05, and SS10 indicated all COC concentrations were in compliance with Closure Criteria, successfully defining the lateral extent of the release. Laboratory analytical results for delineation soil samples SS06 through SS09 indicated chloride concentrations exceeded Closure Criteria.

Delineation soil sample SS07B indicated all COC concentrations were compliant with Closure Criteria, successfully defining the vertical extent of the release. Based on visible staining in the release area and delineation soil sample laboratory analytical results, excavation of impacted soil was warranted.

SURFACE SCRAPING ACTIVITIES

Following delineation activities, surface scraping of visibly stained soil was conducted in the release area to the maximum extent practicable (MEP). Surface scraping activities were performed utilizing hand tools, as no mechanical equipment could safely access nearly all of the release extent area due to the presence of active production equipment and surface pipelines. Because of the competency of the caliche well pad material, soil removal by hand tools was limited to a surface scrape. Surface scraping was conducted to the MEP in the vicinity of delineation soil samples SS07, SS08, and SS09. The surface scraping areas are presented in Figure 3.

EXCAVATION ACTIVITIES

On February 26, 2025, Ensolum personnel returned to the Site to excavate impacted soil based on delineation soil sample laboratory analytical results. Excavation activities were performed utilizing heavy equipment to the MEP due to the proximity to active production equipment and surface pipelines. To direct excavation activities, soil was field screened for VOCs and chloride utilizing the same methods as described above. Once field screening indicated impacted soil was adequately removed, 5-point composite soil samples were collected every 200 square feet from the floor and sidewall of the excavation extent. The 5-point composite 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 FS01 and FS02 were collected from the floor of the excavation from a depth of 1.5 feet bgs. Confirmation soil sample SW01 was collected from the sidewall of the excavation at depths ranging from the ground surface to 1.5 feet bgs. One 5-point composite confirmation soil sample (CS01) was collected from a depth of 0.5 feet bgs in the area where surface scraping activities were completed. All confirmation soil sample locations are depicted on Figure 3.

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The final excavation extent measured approximately 337 square feet. A total of approximately 20 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the Owl Landfill Facility in Jal, New Mexico. A copy of the disposal manifest is presented in Appendix E.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for confirmation soil samples FS01, FS02, and SW01 indicated all COC concentrations were in compliance with Closure Criteria. Laboratory analytical results for CS01 indicated TPH and chloride concentrations exceeded Closure Criteria. Laboratory analytical results are summarized on Table 1, and the complete laboratory analytical reports are included in Appendix F.

ENGINEERING REVIEW

The Site was assessed by a person trained in Occupational Safety and Health Administration (OSHA) excavation and trench safety (Competent Person) under the consultation of a Registered Professional Engineer (RPE) licensed in the State of New Mexico. Soil type B was observed in the inaccessible area, an 86-foot by 78-foot section directly adjacent to and beneath active production piping, footings, and supports, a LACT unit and containment, and horizontal separators. Additional production pipelines and supports of varying dimensions are present throughout the entire proposed excavation, additional engineered pipe racks and platforms, and an 18.5-foot wide by 36.5-foot-long containment housing a LACT unit.

Based on the Site conditions and following OSHA Excavation Standards, the RPE recommendation indicates excavation should not be completed within 37 feet from the edge of the Horizontal Separator A footing and no less than 20 feet from the edge of the Horizontal Separators B and C. The RPS recommendation indicates excavation should not be completed within 18 feet 10 inches from the edge of the pipe rack footing to prevent disruption of the stability of underlain soil. The RPE recommendation indicates that excavation should not be completed within 37 feet from the edge of the LACT structure footing. Based on the dimensions of the requested excavation and presence of adjacent structures, there is inadequate structure support to conduct excavation of the identified impacted soil in a manner that protects both personnel health and equipment stability.

A detailed description of the review and calculations is included in the *Excavation Guidance Document* in Appendix G. The *Excavation Guidance Document* is stamped by an RPE licensed in the state of New Mexico.

DISCUSSION AND DEFERRAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment including horizontal separators, a LACT unit and containment, production piping arrays and support footings preventing excavation of impacted soil. The impacted soil is limited to the area below active production equipment, where remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by delineation soil sample SS07B, collected at 2 feet bgs. The soil is laterally defined by delineation soil samples SS01 through SS05, SS10, and SW01. An estimated maximum of 131 cubic yards of impacted soil remains in place

The results of the karst survey confirm the impacted soil does not pose an imminent risk to deep groundwater at the Site based on the absence of any visible karst features through desktop and pedestrian surveys and absence of any anomalies observed through the geophysical survey to indicate voids. The absence of karst features beneath the Site indicates the subsurface is stable. Impacted soil was removed to the MEP via manual scraping and the engineering review indicates additional

XTO Energy, Inc.
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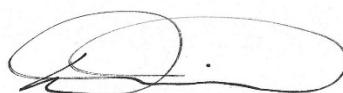
excavation would require major facility deconstruction. The remaining impacted soil has been fully delineated vertically and laterally to the strictest Closure Criteria. The proposed deferral area and all delineation soil samples used to define this area is depicted on Figure 4. As such, XTO requests deferral of final remediation for Incident Number nAPP2501553916. Impacted and waste-containing soil identified in the inaccessible area will be removed at the time of final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely,
Ensolum, LLC



Jeremy Reich
Project Geologist



Daniel R. Moir, PG (licensed in WY & TX)
Senior Managing Geologist

cc: Robert Woodall, XTO
Richard Kotzur, XTO
BLM

Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Delineation Soil Sample Locations
- Figure 3 Confirmation Soil Sample Locations
- Figure 4 Requested Area of Deferral
- Table 1 Soil Sample Analytical Results
- Appendix A Referenced Well Records
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- Appendix C Photographic Log
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- Appendix E Disposal Manifests
- Appendix F Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix G Excavation Guidance Document
- Appendix H Spill Volume Calculation



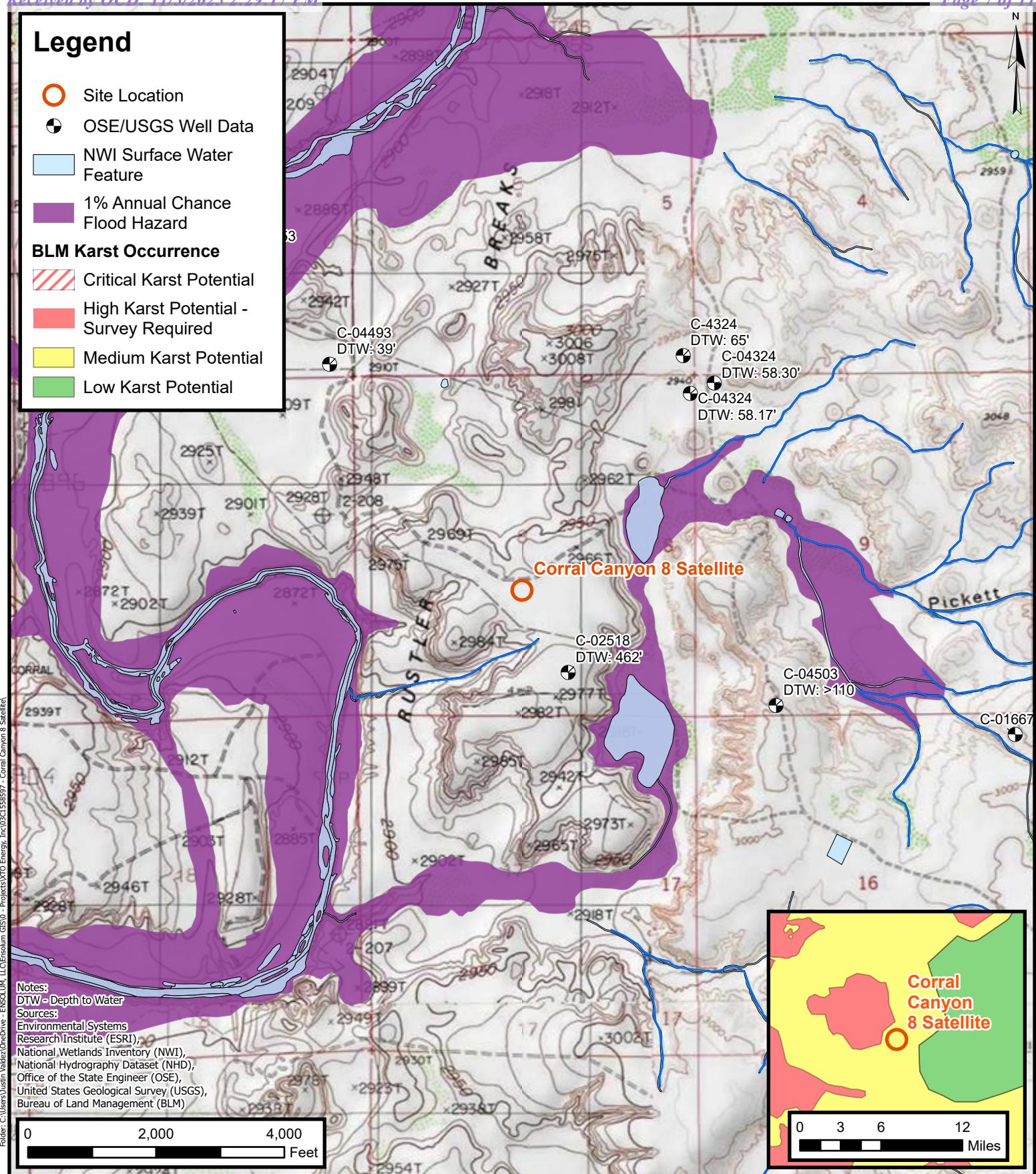
FIGURES

Legend

- Site Location
- OSE/USGS Well Data
- NWI Surface Water Feature
- 1% Annual Chance Flood Hazard

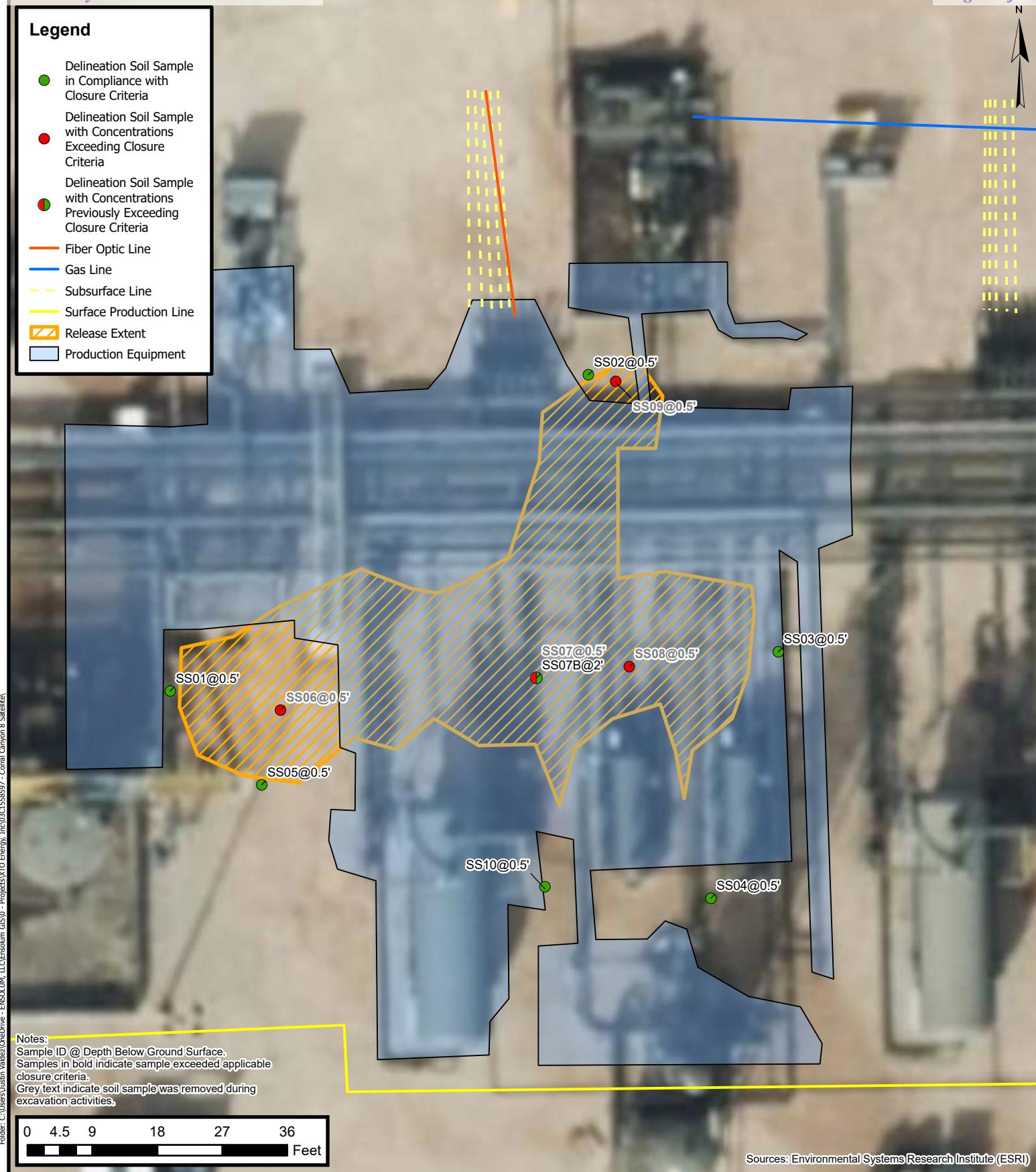
BLM Karst Occurrence

- Critical Karst Potential
- High Karst Potential - Survey Required
- Medium Karst Potential
- Low Karst Potential



Site Receptor Map
XTO Energy, Inc
Corral Canyon 8 Satellite
Incident Number: nAPP2501553916
Unit J & K-08-25S-29E
Eddy County, New Mexico

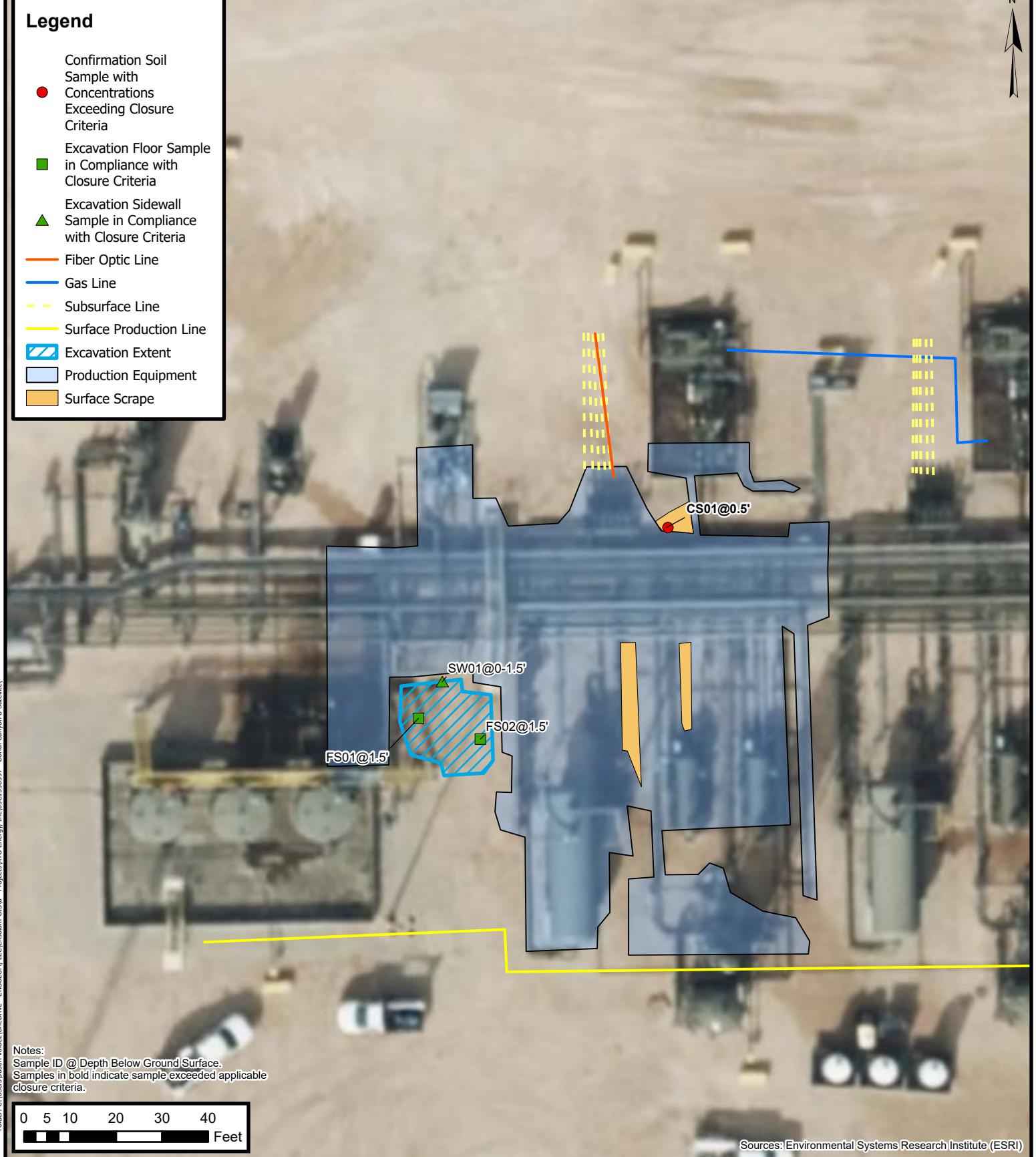
FIGURE
1





Legend

- Confirmation Soil Sample with Concentrations Exceeding Closure Criteria
- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Fiber Optic Line
- Gas Line
- Subsurface Line
- Surface Production Line
- Excavation Extent
- Production Equipment
- Surface Scrape



Environmental, Engineering and Hydrogeologic Consultants

Confirmation Soil Sample Location

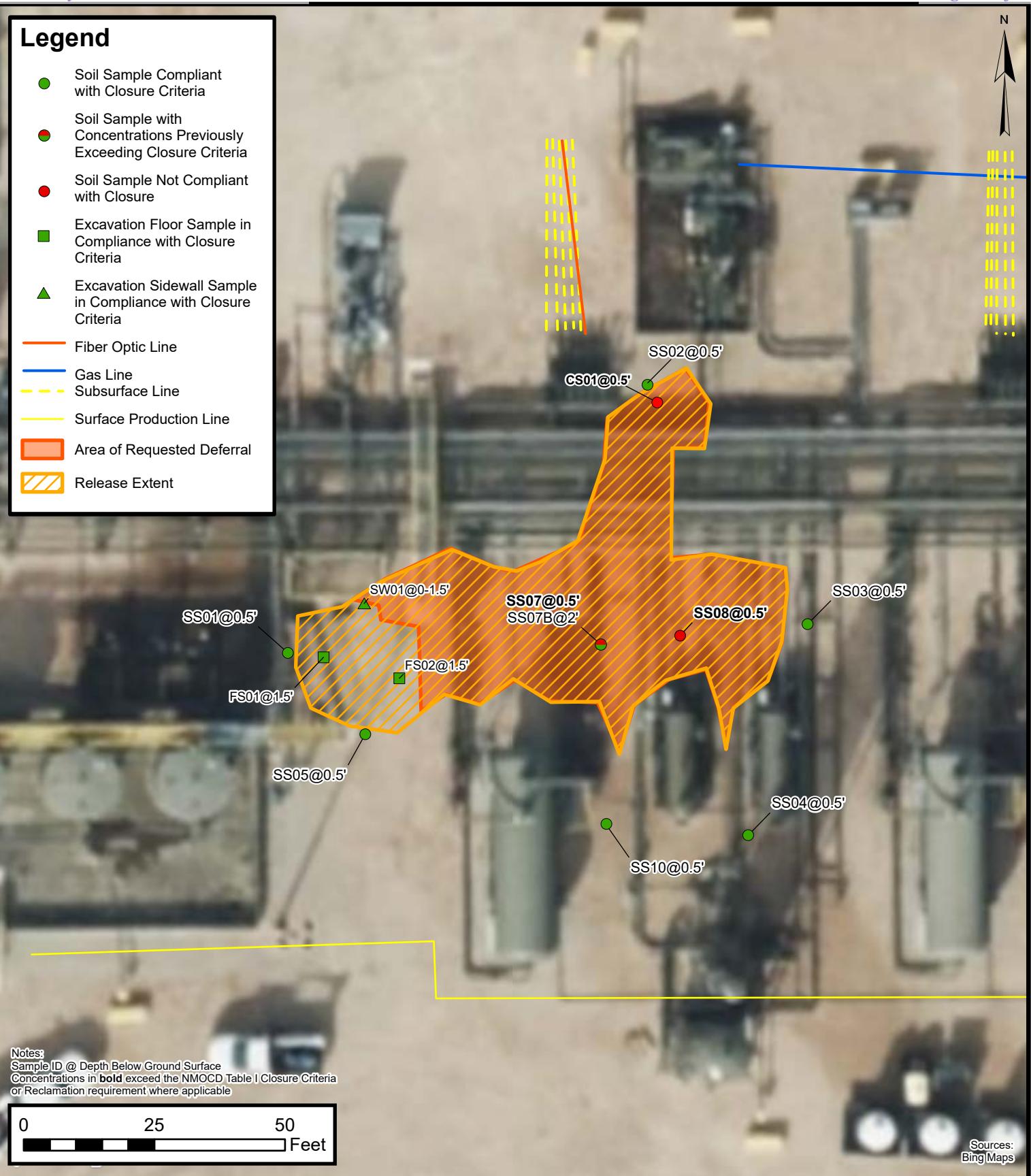
XTO Energy, Inc
Corral Canyon 8 Satellite
Incident Number: nAPP2501553916
Unit J & K-08-25S-29E
Eddy County, New Mexico

**FIGURE
3**

Legend

- Soil Sample Compliant with Closure Criteria
- Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Soil Sample Not Compliant with Closure
- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Fiber Optic Line
- Gas Line
- Subsurface Line
- Surface Production Line
- Area of Requested Deferral
- Release Extent

Document Path: C:\Users\Peter.Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\PAR_GISFile\Path Structures3 - Corral Canyon 8 Satellite1 - Project\Corral Canyon 8 Satellite.ajpx



Area of Requested Deferral

XTO Energy, Inc
 Corral Canyon 8 Satellite
 Incident Number: nAPP2501553916
 Unit J & K-08-25S-29E
 Eddy County, New Mexico



Environmental, Engineering and
 Hydrogeologic Consultants

FIGURE
4



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Corral Canyon 8 Satellite
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	NE	100	600
Delineation Soil Samples										
SS01	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS02	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS03	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SS04	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SS05	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS06	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,840
SS07	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,440
SS07B	03/25/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
SS08	01/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,120
SS09	03/25/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,400
SS10	03/25/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
Confirmation Soil Samples										
FS01	02/26/2025	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304
FS02	02/26/2025	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
SW01	02/26/2025	0-1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
CS01	03/25/2025	0.5	<0.050	<0.300	<10.0	1,110	951	1,110	2,061	7,600

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

Referenced Well Records

STATE ENGINEER OFFICE

WELL RECORD

465788

Revised June 1972

Section 1. GENERAL INFORMATION

OFFICE OF

STATE ENGINEER

SANTA FE, NEW MEXICO

(A) Owner of well Penwell Energy Owner's Well No. 600
 Street or Post Office Address c/o Glenn's Water Well Service Address 1 PM 1 29
 City and State P.O. Box 692 Tatum, NM 88267

Well was drilled under Permit No. C-2518 and is located in the:

a. 1/4 1/4 SW 1/4 SE 1/4 of Section 8 Township 25 Range 29 N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
 Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____
 the _____ Zone in _____ Grant.

(B) Drilling Contractor Glenn's Water Well Service License No. WD - 421

Address P.O. Box 692 Tatum, NM 88267Drilling Began 6-2-97 Completed 6-2-97 Type tools rotary Size of hole 7 7/8 in.Elevation of land surface or _____ at well is _____ ft. Total depth of well 462 ft.Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
			dry hole	

Section 3. RECORD OF CASING

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)			Perforations	
From	To						From	To
			none					

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement						
From	To					Top	Bottom	Length (feet)	Type of Shoe	From	To

Section 5. PLUGGING RECORD

Plugging Contractor well was back filled with cutting
 Address and drilling mud

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative _____

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1	0	460	cutting & mud
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 06-10-97

Quad _____ FWL _____ FSL _____

File No. C-2518 Use OWD "Dry Hole" Location No. 258.29E.8.43412

Section 6. LOG OF HOLE

Section 7. REMARKS AND ADDITIONAL INFORMATION

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97 JUN 10 PM 1 17

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Corky G. Lewis
Driller

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.



WELL RECORD & LOG
OFFICE OF THE STATE ENGINEER
www.ose.state.nm.us

FOR OSE INTERNAL USE

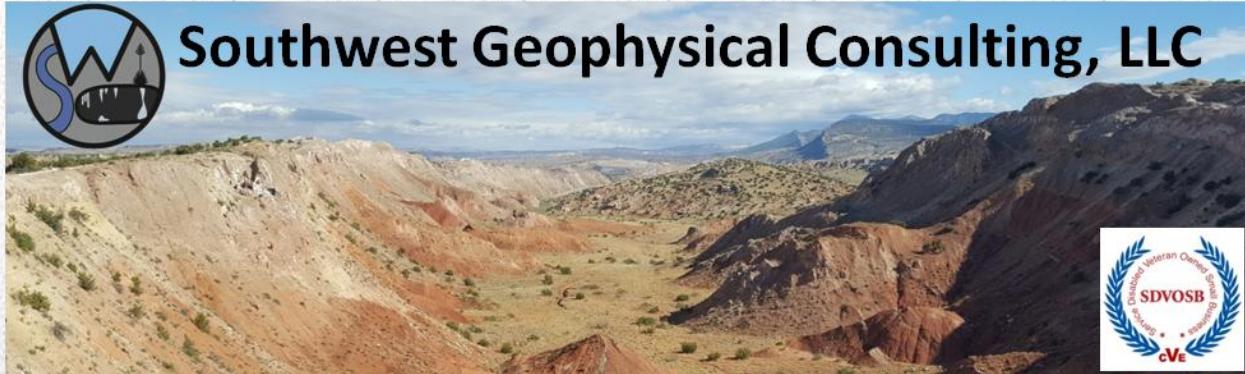
WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	C-4503	POD NO.	1	TRN NO.	682792
LOCATION	Expl	255.29E. 9.334		WELL TAG ID NO.	PAGE 1 OF 2

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)		
FILE NO.	C-4503	POD NO.	1	TRN NO.
LOCATION			WELL TAG ID NO.	PAGE 2 OF 2



Appendix B Environmental Karst Study Report



Environmental Karst Study Report

XTO Corral Canyon 8 Satellite

Eddy County, New Mexico

Prepared For:

Ensolum, LLC

3122 National Parks Highway
Carlsbad, NM 88220

- Positive within 200 feet of spill delineation boundary
- Negative within 200 feet of spill delineation boundary
- Stable Unstable Ground
- Karst Monitor Recommended

August 15, 2025

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1.0 INTRODUCTION

This report was commissioned by Ensolum, LLC (hereinafter referred to as "the client"), on June 9, 2025, for the purpose of conducting an environmental karst study within an area encompassing the XTO Corral Canyon 8 Satellite project site (hereinafter termed "XCC8") centered at N 32.142567° W 104.006681°.

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^[1]), and to determine whether stable ground exists (as defined by 19.15.2 NMAC Definitions^[2]) within the spill boundary of the XTO Corral Canyon 8 Satellite project as provided by the client via e-mail (**XCC8_INF_UTM13.kmz**) on June 17, 2025, using electrical resistivity imaging^[3].

1.2 Summary of Findings

- **No surface karst features exist within the 200-foot (61-meter) perimeter of the spill delineation boundary.**
- **No anomalies consistent with subsurface air-filled voids were found within the XCC8 resistivity survey area.**
- **Flat-lying stratigraphy is interpreted to exist beneath the area where the geophysical survey was conducted, indicating stable ground.**

1.3 Affected Environment

The XCC8 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^[4]. These designations are also recognized by the New Mexico State Land Office (NMSLO). This project occurs within a **MEDIUM** karst occurrence zone (MKOZ)^[5] (**Figure 1**).



Figure 1: Karst occurrence zone overview. Background image credit: Google Earth. Image date: August 21, 2024. 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^[4].

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 in the field should be conducted 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 11.1 kilometers (6.9 miles) southeast of Malaga, New Mexico, east of US Highway 285 and northwest of Pipeline Road Number 1. The release site is located within section 8, NM T25S R29E^[6] (**Figure 1** and **Figure 2**). The region has flat-lying terrain with karstification occurring in the gypssite soils and underlying gypsum and dolomite bedrock^[7] (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^[8]. This area is within the Chihuahuan Desert Thornscrub as defined by the Southwestern Regional ReGAP Vegetation map^[9] 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^[5] (**Figure 1**) and within BLM-CFO managed land^[10] (**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 XCC8 survey is located at an elevation of 903 meters (2,961 feet), \pm 6 meters (19 feet), and is located within a region underlain by the Permian Rustler Formation (Pru). The area is mantled by thin gypsumiferous soils (gypsiter), Quaternary alluvium (Qal), and eolian deposits (Qe)^[11] 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)^[12].

The Pru overlies the Permian Salado Formation (Psl) (not shown on map as it does not outcrop in the survey area), 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^[12]. The Rustler Formation may be subject to collapse if a void has developed beneath it in the Salado Formation^[13].

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



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.

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 performed out to 305 meters (1,000 feet) from the spill delineation boundary per New Mexico Oil Conservation Division guidance^[1] (**Figure 4**). 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 December 23, 2024^[15]; 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 surface karst features within the 305-meter survey boundary.

Surface karst surveys are conducted by sUAS at low elevation within 200 meters of the spill delineation boundary^[3] (**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^[16].

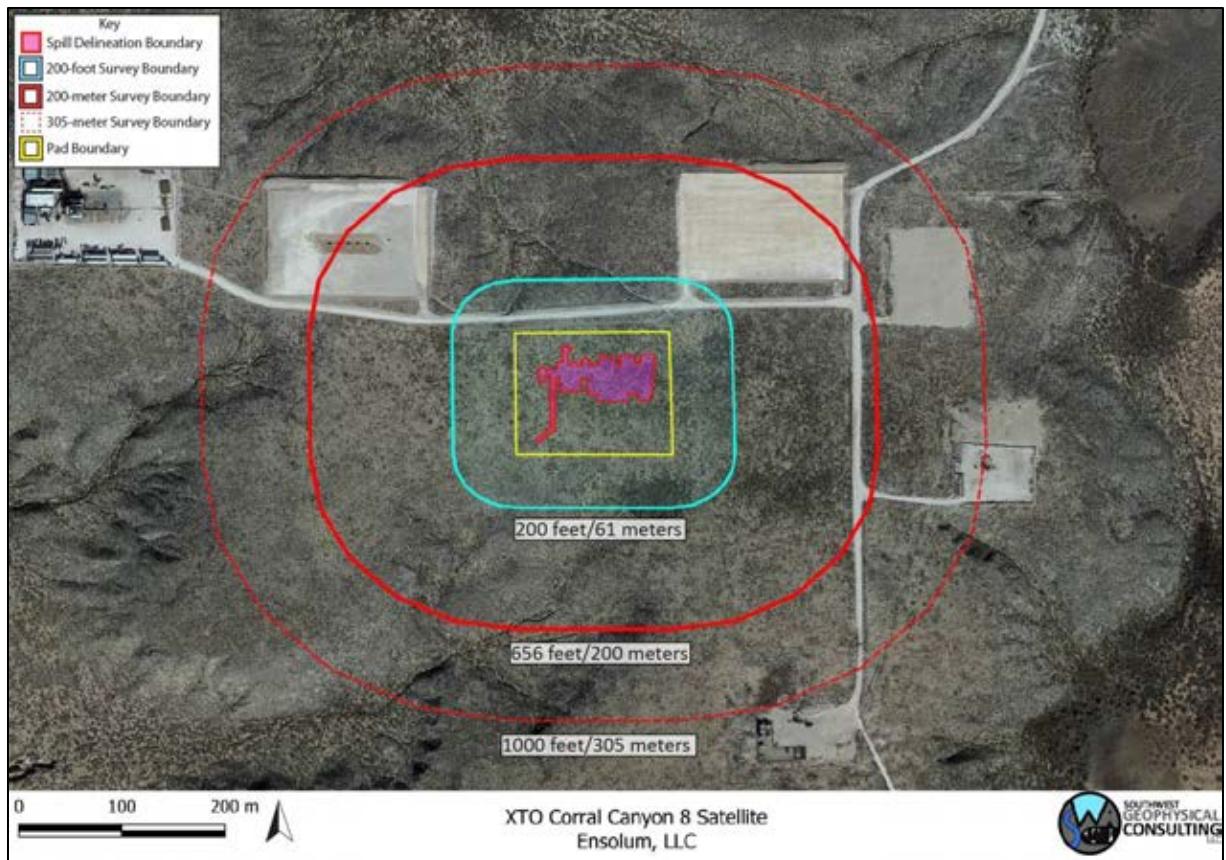


Figure 4: Surface survey overview. Background image credit: Google Earth. Image date: January 27, 2023. Datum: WGS-84.

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 July 8, 2025. Surface karst features may have developed after this date and will not be noted in this report. Imagery analysis was completed by Dave Decker of Southwest Geophysical Consulting on July 24, 2025.

2.3.2 Geophysical Survey

For this survey, an ABEM Terrameter LS 2, two 42-electrode, and one 56-electrode array of 40-centimeter-long electrodes were used to image the subsurface. This survey consisted of three resistivity lines in a dipole-dipole configuration: line XCC801 was laid out south to north, line XCC802 was laid out west to east, and XCC803 was laid out south to north. Line XCC801 consisted of 56 electrodes at 5-meter spacing resulting in a 275-meter-long array and lines XCC802 and XCC803 both consisted of 42 electrodes at 5-meter spacing resulting in 205-meter long arrays (**Figure 5, Table 1**). A preconfigured command file was used to run the data collection (DipoleDipole4x14). The 56-electrode configuration provided a depth of investigation of 55 meters (180 feet) with a resolution of 2.0 to 2.5 meters (6.6 to 8.2 feet). The 42-electrode configuration provided a depth of investigation of 33 meters (108 feet) with a resolution of 2.0 to 2.5 meters (6.6 to 8.2 feet) within the first 5 to 8 meters (16 to 26 feet) from the surface. A Leica GS18 GPS was used to record electrode locations and elevations.

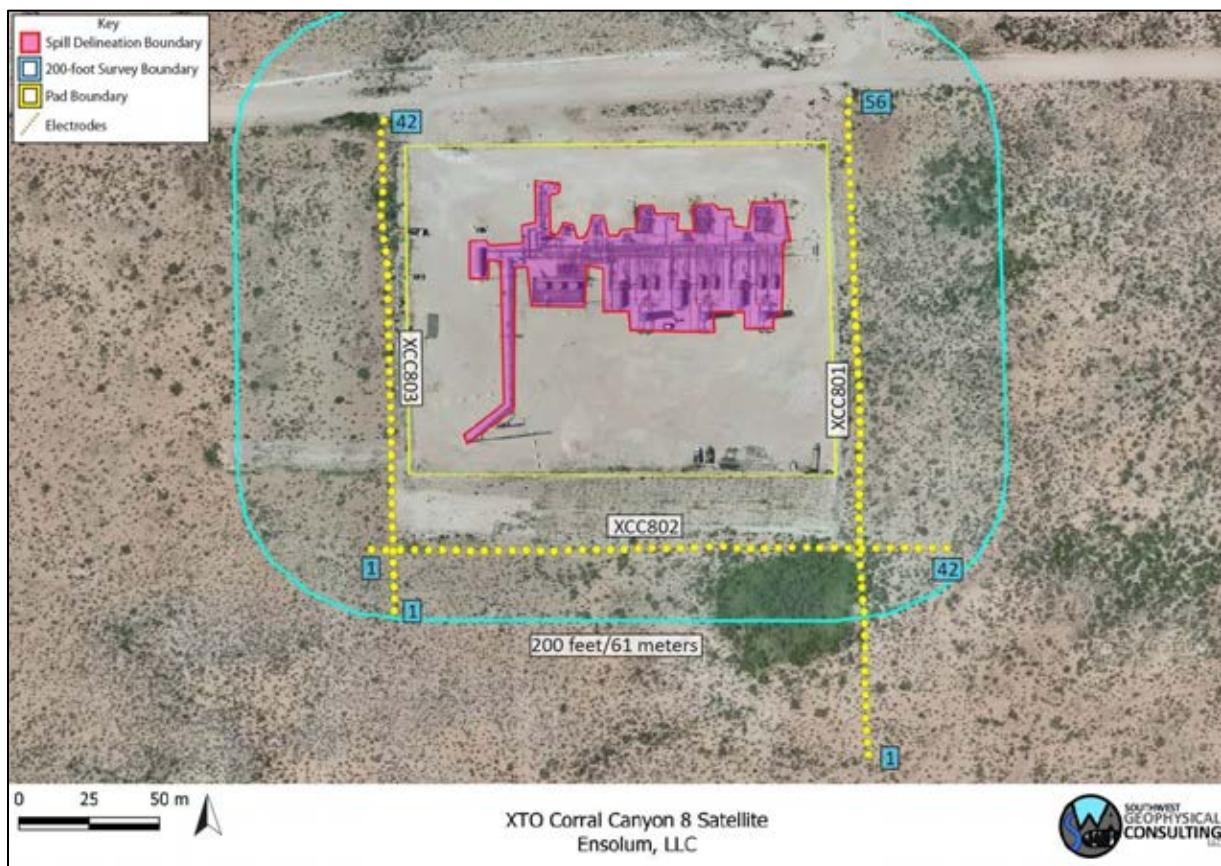


Figure 5: Geophysical survey overview. XCC801 was conducted with 56 electrodes at 5-meter spacing, and both XCC802 and XCC803 were conducted with 42 electrodes at 5-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: January 27, 2023. Image datum: WGS-84.

Table 1 provides basic line data. Detailed information for each line 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 XCC8_ERI_Points.kmz file contains all the points for the survey line listed in the file name. These data are available in the accompanying files XCC8_ERI_Points.xlsx and ENS-018-20250609_XCC8_Data_Files.kmz.

File Name:	Completed By:	Date:
XCC801.kmz	Steven Kesler – Field Geologist	
XCC802.kmz	Kat Knight – Field Geologist	7/16/2025
XCC803.kmz	Michael Jones – Field Geologist	

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 Ω -m) and a max apparent resistivity set to 100,000 Ω -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 Ω -m Min Apparent Resistivity = 0.1 Ω -m

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

All field work, including setup, stow, and travel, was completed by Steven Kesler, Kat Knight, and Michael Jones on July 16, 2025.

3.0 RESULTS

3.1 Surface Karst Survey

The desk study and surface karst survey located no surface karst features within the 200-foot (61-meter)^[1] survey boundary (Figure 6).

No surface karst features exist within the **200-meter** survey boundary, and no springs exist within the 305-meter (1,000 foot) survey boundary^[1].

The lack of surface karst features does not mean the area is not karstified and the survey area may still contain buried karst features. Caution should be exercised while clearing brush and during any excavation, trenching, or construction operations. Employing a Bureau of Land Management approved karst monitor on site during these operations should be considered.

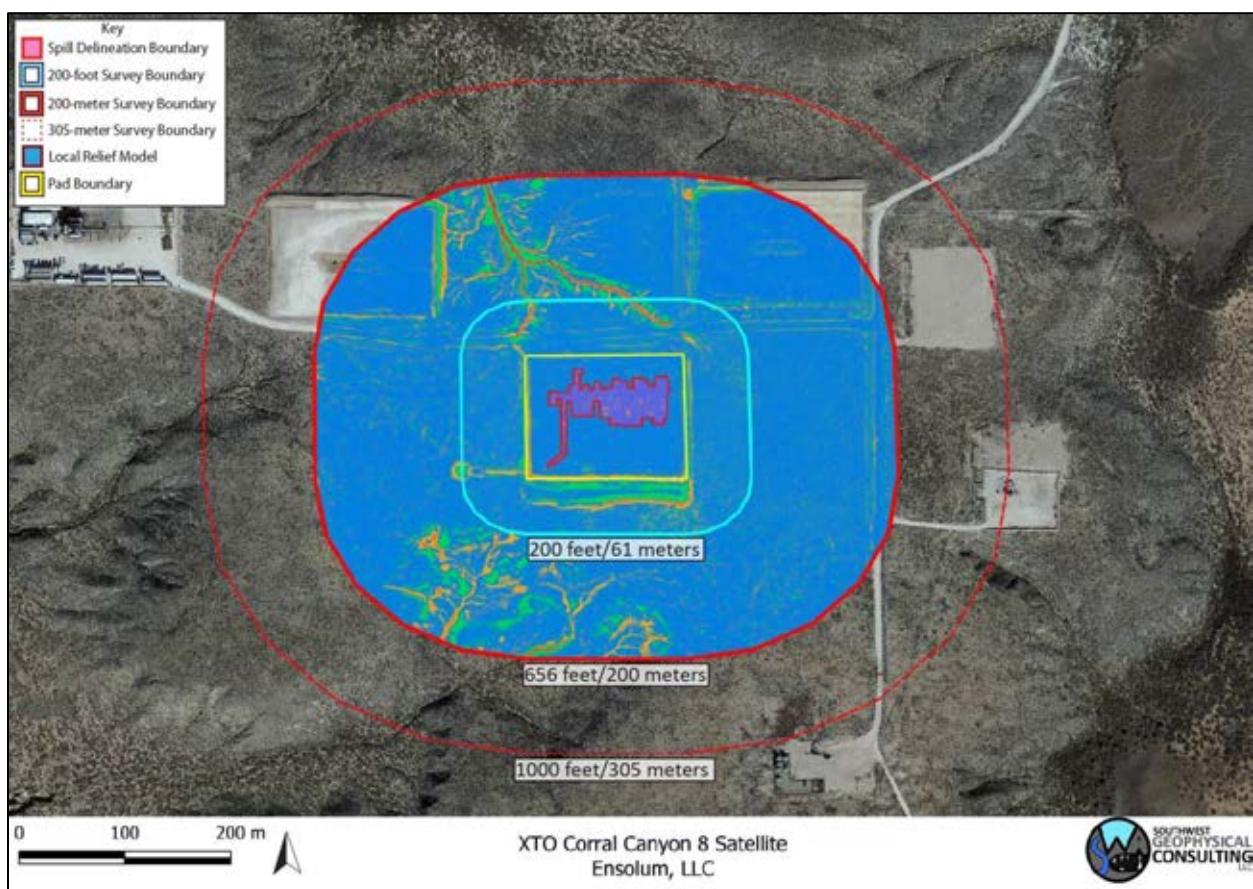


Figure 6: UAS-conducted surface karst survey results. Background image credit: Google Earth. Image date: March 20, 2023. Image datum: WGS-84.

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 stable geologic system with resistivities between 0.33 and 5,447 Ohm-m with occasional resistivities to 100,000 Ohm-m (**Figure 7**). These high-resistivity anomalies are interpreted to be noise associated with nearby infrastructure. **No anomalies interpreted as underground voids were found in the XCC8 survey area.** 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.

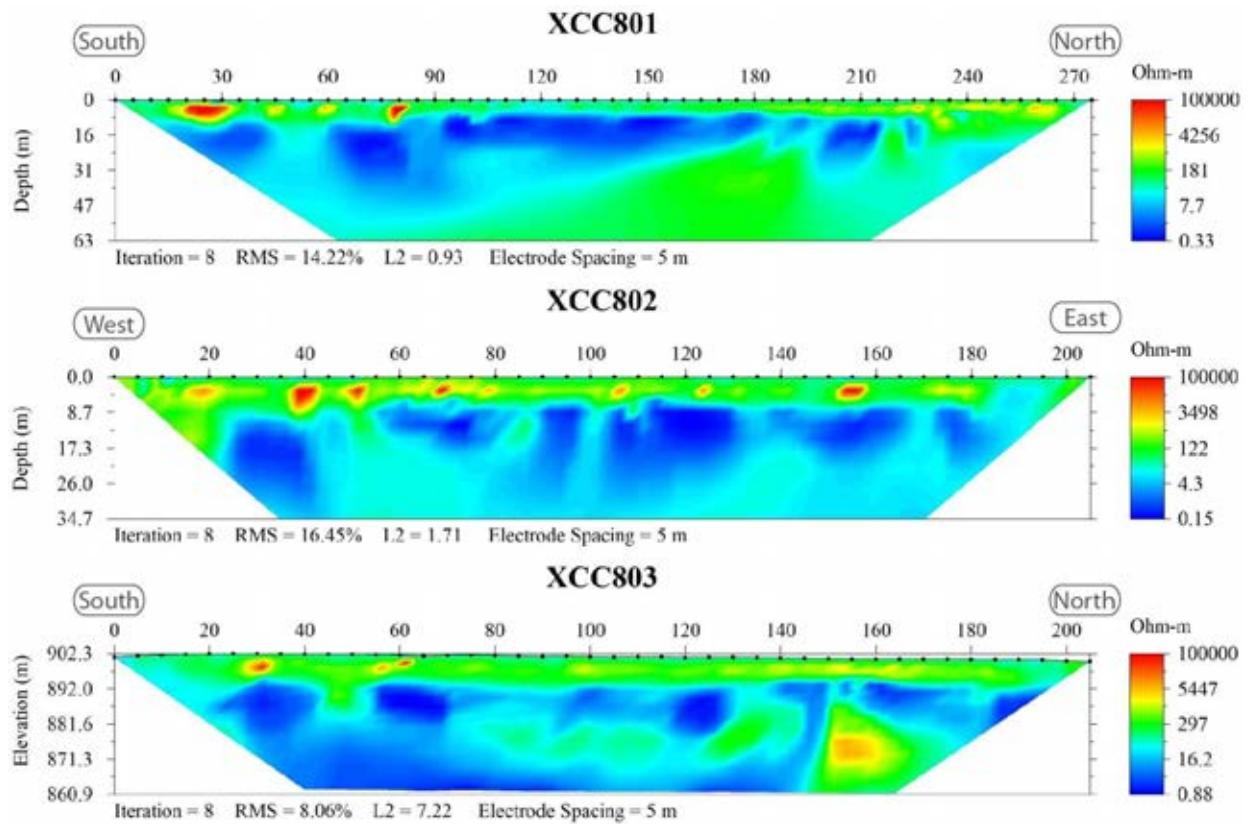


Figure 7: 2D inverted resistivity sections. Reds and oranges indicate higher resistivity values. Yellows and greens are medium-resistivity values. Blues are low-resistivity values. Please note that the color scale is relative.

4.0 DISCUSSION

No anomalies interpreted as large near-surface voids are located within the study area. However, due to the resolution limit of the survey, other small voids at or near the resolution limit (2.5 – 3.0 meters) cannot be ruled out. The extremely high-resistivity areas (100,000 Oh-m) on these lines are interpreted as noise associated with nearby infrastructure. Other moderately high resistivity areas located less than 10 meters beneath the surface are interpreted as dry caliche or gypssite soils; due to their low resistivity values when compared with significant subsurface voids, these features should not be a concern for construction of any well pad infrastructure. Areas of moderate resistivity (yellows and greens) near the surface are interpreted as dry caliche soils and gypsum or dolomite bedrock of the Rustler Formation (**Figure 7** and **Figure 8**).

Resistivity of the survey area drops below 50 $\Omega\text{-m}$ at approximately 12 - 15 meters (39.4 – 49.2 feet) depth and generally increases to greater than 500 $\Omega\text{-m}$ below these depths throughout the survey area, indicating a change from moist to saturated caliche/gypssite soils or gypsums to the bedrock of the Rustler Formation (**Figure 7** and **Figure 8**).

Please remember that these are interpretations made from knowledge of the local subsurface materials and experience. **They remain interpretations until verified by geotechnical methods.**

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 may exist; these may be encountered during excavation and if so, should be evaluated by a karst specialist prior to continuation of the excavation. Employing a BLM-CFO approved karst monitor on site during excavation in this area should be considered.

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.



Figure 8: Data overlay. Colored trapezoids are 2D inverted resistivity lines. Background image credit: Google Earth. Image date: January 27, 2023.

5.0 SUMMARY

- The XCC8 survey contains no surface karst features within 200 feet (61 meters) of the spill delineation boundary.
- The XCC8 survey contains no subsurface anomalies which are interpreted as karst-related features within 200-feet (61 meters) of the spill delineation boundary.
- Flat-lying stratigraphy is interpreted to exist beneath the area where the geophysical survey was conducted, indicating stable ground.
- Employing a BLM-CFO approved karst monitor during excavation at this 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 commissioned at the request of the land manager should be submitted to the BLM-CFO at 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 $\Omega\text{-m}$.
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

Chief Executive Officer, Principal Geologist
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5117 Fairfax Dr. NW
Albuquerque, NM 87114
dave@swgeophys.com
(505) 585-2550

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-018-20250609 entitled, “Environmental Karst Study Report, XTO Corral Canyon 8 Satellite, 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, August 16, 2025.



David D. Decker
PhD, CPG-12123





APPENDIX C

Photographic Log



Photographic Log

XTO Energy, Inc
Corral Canyon 8 Satellite
nAPP2501553916



Photograph: 1

Date: 1/29/2025

Description: Hand excavation activities near FS07

View: South

Photograph: 2

Date: 1/29/2025

Description: Hand excavation activities east of FS02

View: Southeast



Photograph: 3

Date: 2/25/2025

Description: Hand excavation activities

View: West

Photograph: 4

Date: 2/25/2025

Description: Excavation activities near FS01, FS02, SW01

View: South



Photographic Log

XTO Energy, Inc
Corral Canyon 8 Satellite
nAPP2501553916



Photograph: 5 Date: 2/25/2025
Description: Hand excavation activities near SS07, SS08
View: Southeast

Photograph: 6 Date: 3/25/2025
Description: Delineation activities near SS07B
View: Northeast



Photograph: 7 Date: 4/30/2025
Description: Engineering measurement activities near separators A, B, C
View: Southwest

Photograph: 8 Date: 4/30/2025
Description: Engineering measurement activities near pipe array D and LACT unit E
View: Northeast



Photographic Log

XTO Energy, Inc
Corral Canyon 8 Satellite
nAPP2501553916



Photograph: 9

Date: 4/30/2025

Description: Pipe array supports near SS02

View: Southeast



Photograph: 10

Date: 4/30/2025

Description: Engineering measurement activities near separator A, FS01, FS02, SW01

View: Northeast

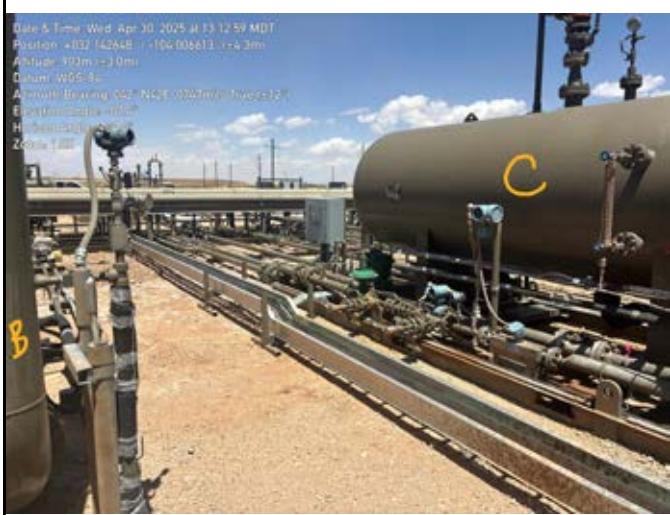


Photograph: 11

Date: 4/30/2025

Description: Engineering measurements near CS01

View: Southwest



Photograph: 12

Date: 4/30/2025

Description: Engineering measurements near separator C, SS08

View: Northeast



APPENDIX D

Lithologic Soil Sampling Logs

 ENSOLUM								Sample Name: SS07	Date: 3/25/25
								Site Name: Corral Canyon 8 Satellite	
								Incident Number: nAPP2501553916	
								Job Number: 03C1558597	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JD	Method: Core Drill
Coordinates: 32.142751, -104.006738								Hole Diameter: 2"	Total Depth: 2'
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
D	1982	4.1	Y	SS07	0.5	0	CCHE	(0-2') CALICHE, Tan, sand - gravel, sub-angular, poorly sorted, slight odor	
D	533.6	1.5	Y	SS0A	1	1			
D	N/A	2	N	SS07B	2	2		No Odor - Sample comprised of rock, unable to field test for chloride	
Total Depth @ 2'									



APPENDIX E

Waste Manifest



OWL Landfill Services, LLC
DBA: Northern Delaware Basin Landfill
3889 Maple Ave. Suite 300
Dallas, TX 75219
505.231.1212
ar@ndblandfill.com

COMPANY MAN: Kent Dotz
(Authorized Agent's Printed Name and Title)
SIGNATURE: _____
COMPANY MAN EMAIL: _____
COMPANY MAN PHONE: _____

MANIFEST #

0385681

Part 1 - Generator

COMPANY NAME: XTO

LEASE: Coral Canyon 8 Sat Battery

AFE #: WAPP2501553916

API: _____

RIG NAME: FAPP3207552359

WELL #: _____

STATE & COUNTY ORIGIN: SC 2105321001 Proj #0215535917

DATE: 2-26-25

PHONE: _____

QUANTITY: BELLY 20 BBLS YARDS

Waste Description (check only one box)

RCRA Exempt

RCRA Non-Exempt

- Water Based Cuttings (DRY)
- Oil Based Cuttings (DRY)
- Oil Base Mud
- Rig Trash
- Other: _____

- Water Based Cuttings (WET)
- Oil Based Cuttings (WET)
- Water Base Mud
- Pit Liners

- Contaminated Soil
- Injectable Fluids
- Muds w/Cement

- Produced Sands
- Non-Injectable Fluids
- Tank Bottoms

Authorize Washout?

Yes No

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

RCRA EXEMPT:

Oilfield wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (NDBL Accepts certifications on a per load basis only)

RCRA NON-EXEMPT:

Oilfield waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

SDS Information

RCRA Hazardous Waste Analysis

Process Knowledge

Other (Provide Description Below)

EMERGENCY NON-OILFIELD:

Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a description of that waste must accompany this form)

(Print) Authorized Agent's Name _____ Date _____ Signature _____

TO BE COMPLETED BY THE TRANSPORTER WHILE THE GENERATOR IS PRESENT

COMPANY NAME: SemTex Mex

YARD #:

WHP #:

TRUCK #:

03

ADDRESS: _____

TICKET #:

ROLL OFF BIN#:

TRAILER #:

527

DATE

TIME

AM

DISPATCHER

DISPATCHER

RECEIVED:

RECEIVED:

PM

NAME:

PHONE #:

The following statement must be signed by the truck driver prior to unloading at disposal facility:

"I CERTIFY THAT NO OTHER MATERIAL HAS BEEN PLACED IN THIS VESSEL SINCE LOADING OF MATERIAL DESCRIBED IN PART 1 ABOVE."

DRIVER:

Cornelia Rempel

DRIVER'S SIGNATURE: COR

(Driver's Name Printed)

I, (TRANSPORTER), CERTIFY THAT THE INFORMATION GIVEN ON THIS MANIFEST IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

TO BE COMPLETED BY OWL LANDFILL EMPLOYEES

FACILITY RECEIVED AT (Check One):

DATE: 2-26-25 TIME IN: 11:14 AM / PM
TIME OUT: _____ AM / PM

Northern Delaware Basin Landfill

2029 W. NM Highway 128 | Jal, New Mexico 88252

WASHOUT BY: _____

WASHOUT: _____ TIME IN: _____ TIME OUT: _____

ACCEPTANCE TESTING: PAINT FILTER: PASS FAIL N/A

NORM	TESTING:
<i>P</i>	
(Less than 50 MCR)	

TCLP: PASS FAIL N/A

TOX: PASS FAIL N/A

Shake Out:		
1	2	3
<i>H₂O</i>	<i>N/A</i>	
S		

307682

Gallon Test: _____

SERVICE NOTES:

This is to certify that: _____

Employee (Printed Name) Andy Mest

has received the above indicated waste, waste has passed all acceptances testing of this facility and the waste has been disposed of in an authorized manner at a permitted site.

EMPLOYEE SIGNATURE: Andy Mest

White Copy: Disposal Facility

Yellow: Transporter

Pink: Generator



APPENDIX F

Laboratory Analytical Reports & Chain of Custody Documentation



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

February 06, 2025

JEREMY REICH
ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD, NM 88220

RE: CORRAL CANYON 8 SATELLITE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/03/25 12:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 01 0.5' (H250606-01)

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	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41	QM-07	
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41	QM-07	
Total BTEX	<0.300	0.300	02/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 74.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.9 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 02 0.5' (H250606-02)

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	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 76.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 03 0.5' (H250606-03)

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	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 04 0.5' (H250606-04)

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	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 85.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 05 0.5' (H250606-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.0 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 06 0.5' (H250606-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2840	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 93.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 07 0.5' (H250606-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 123 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7440	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 96.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 02/03/2025 Sampling Date: 01/29/2025
 Reported: 02/06/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558483 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SS 08 0.5' (H250606-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/03/2025	ND	2.39	120	2.00	4.72		
Toluene*	<0.050	0.050	02/03/2025	ND	2.42	121	2.00	5.57		
Ethylbenzene*	<0.050	0.050	02/03/2025	ND	2.59	130	2.00	5.41		
Total Xylenes*	<0.150	0.150	02/03/2025	ND	7.90	132	6.00	6.41		
Total BTEX	<0.300	0.300	02/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7120	16.0	02/03/2025	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/03/2025	ND	190	94.8	200	0.891		
DRO >C10-C28*	<10.0	10.0	02/03/2025	ND	191	95.3	200	0.817		
EXT DRO >C28-C36	<10.0	10.0	02/03/2025	ND						

Surrogate: 1-Chlorooctane 89.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC			BILL TO			ANALYSIS REQUEST		
Project Manager: Jeremy Reich			P.O. #:					
Address: 3122 National Parks Hwy			Company: XTO Energy					
City: Carlsbad		State: NM Zip: 88220	Attn: Colton Brown					
Phone #: (432) 296-0627		Fax #:	Address: 3104 E. Green St.					
Project #: 03C1558483		Project Owner:	City: Carlsbad					
Project Name: Corral Canyon 8 Satellite			State: NM Zip: 88220					
Project Location: 32.14267, -104.00638			Phone #: 575-988-2390					
Sampler Name: Mario Sarkis			Fax #:					
FOR LAB USE ONLY								
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	
			GROUNDWATER	WASTEWATER	SOIL	ICE / COOL	DATE	TIME
1	SS01	0.5	G	1	✓	✓	12/29/05	1103
2	SS02	0.5	G	1	✓			1055
3	SS03	0.5	G	1	✓			1130
4	SS04	0.5	G	1	✓			1124
5	SS05	0.5	G	1	✓			1107
6	SS06	0.5	G	1	✓			1451
7	SS07	0.5	G	1	✓			1458
8	SS08	0.5	G	1	✓			1526

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 compilation of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 12/30/05	Received By: Mario Sarkis	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Time: 1300		All Results are emailed. Please provide Email address:
Delivered By: (Circle One)	Observed Temp. °C 13	Sample Condition: Cool Intact	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C 14	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
Turnaround Time: Standard <input checked="" type="checkbox"/> Bacteria (only) Sample Condition			
Thermometer ID #115 <input checked="" type="checkbox"/> Cool Intact Observed Temp. °C			
Correction Factor 0.50 +0.30 <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C			

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



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

March 05, 2025

TRACY HILLARD
ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD, NM 88220

RE: CORRAL CANYON 8 SATELLITE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/27/25 14:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	03/05/2025	Sampling Type:	Soil
Project Name:	CORRAL CANYON 8 SATELLITE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558597	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.14267,-104.00638		

Sample ID: FS 01 1.5' (H251176-01)

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	03/03/2025	ND	2.12	106	2.00	5.54		
Toluene*	<0.050	0.050	03/03/2025	ND	2.18	109	2.00	6.90		
Ethylbenzene*	<0.050	0.050	03/03/2025	ND	2.27	113	2.00	8.70		
Total Xylenes*	<0.150	0.150	03/03/2025	ND	7.04	117	6.00	9.29		
Total BTEX	<0.300	0.300	03/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	03/03/2025	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	03/03/2025	ND	187	93.5	200	2.69		
DRO >C10-C28*	<10.0	10.0	03/03/2025	ND	177	88.6	200	4.01		
EXT DRO >C28-C36	<10.0	10.0	03/03/2025	ND						

Surrogate: 1-Chlorooctane 104 % 71.8-148

Surrogate: 1-Chlorooctadecane 101 % 63.9-155

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/27/2025 Sampling Date: 02/26/2025
 Reported: 03/05/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: FS 02 1.5' (H251176-02)

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	03/03/2025	ND	2.12	106	2.00	5.54		
Toluene*	<0.050	0.050	03/03/2025	ND	2.18	109	2.00	6.90		
Ethylbenzene*	<0.050	0.050	03/03/2025	ND	2.27	113	2.00	8.70		
Total Xylenes*	<0.150	0.150	03/03/2025	ND	7.04	117	6.00	9.29		
Total BTEX	<0.300	0.300	03/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	03/03/2025	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	03/03/2025	ND	187	93.5	200	2.69		
DRO >C10-C28*	<10.0	10.0	03/03/2025	ND	177	88.6	200	4.01		
EXT DRO >C28-C36	<10.0	10.0	03/03/2025	ND						

Surrogate: 1-Chlorooctane 100 % 71.8-148

Surrogate: 1-Chlorooctadecane 97.4 % 63.9-155

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/27/2025 Sampling Date: 02/26/2025
 Reported: 03/05/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE BATTERY Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.14267,-104.00638

Sample ID: SW 01 0-1.5' (H251176-03)

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	03/03/2025	ND	2.12	106	2.00	5.54		
Toluene*	<0.050	0.050	03/03/2025	ND	2.18	109	2.00	6.90		
Ethylbenzene*	<0.050	0.050	03/03/2025	ND	2.27	113	2.00	8.70		
Total Xylenes*	<0.150	0.150	03/03/2025	ND	7.04	117	6.00	9.29		
Total BTEX	<0.300	0.300	03/03/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	03/03/2025	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	03/03/2025	ND	187	93.5	200	2.69		
DRO >C10-C28*	<10.0	10.0	03/03/2025	ND	177	88.6	200	4.01		
EXT DRO >C28-C36	<10.0	10.0	03/03/2025	ND						

Surrogate: 1-Chlorooctane 100 % 71.8-148

Surrogate: 1-Chlorooctadecane 97.7 % 63.9-155

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*=Accredited Analyte

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A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

$t+1$

<p>Company Name: <u>Ensolum, LLC</u></p> <p>Project Manager: <u>Jeremy Reich</u></p> <p>Address: <u>3122 National Parks Hwy</u></p> <p>City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u></p> <p>Phone #: <u>337 257-8307</u> Fax #: <u></u></p> <p>Project #: <u>03C1558597</u> Project Owner: <u>XTO</u></p> <p>Project Name: <u>Corral Canyon 8 Satellite Battery</u></p> <p>Project Location: <u></u></p> <p>Sampler Name: <u>Connor Whitman</u></p>				<p>BILL TO</p> <p>P.O. #: <u></u></p> <p>Company: <u>XTO Energy Inc.</u></p> <p>Attn: <u>Colton Brown</u></p> <p>Address: <u>3104 E. Green St.</u></p> <p>City: <u>Carlsbad</u></p> <p>State: <u>NM</u> Zip: <u>88220</u></p> <p>Phone #: <u></u></p> <p>Fax #: <u></u></p>			<p>ANALYSIS REQUEST</p>					
<p>FOR LAB USE ONLY</p>				<p>MATRIX</p> <p>GROUNDWATER</p> <p>WASTEWATER</p> <p>SOIL</p> <p>OIL</p> <p>SLUDGE</p>			<p>PRESERV.</p> <p>ACID/BASE</p> <p>ICE / COOL</p> <p>OTHER</p>			<p>SAMPLING</p>		
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	DATE	TIME	BTEX	TPH	CHLORIDE			
H251176 1 2 3	FS01 FS02 SW01	1.5 1.5 0-1.5	C C C	1 1 1	2-26-25	1150 1154 1205	/	/	/			
										dw		

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 analysis. 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 interruption, loss of use, or loss of profits incurred by client, its subsidiaries, or affiliates.

Relinquished By: <i>6/26</i>		Date: <u>2/27/25</u> Received By: <i>Jawara Oldafye</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:				
		Time: <u>1400</u>	All Results are emailed. Please provide Email address: <i>JReich@ensolum.com, TMorrissey@ensolum.com, kthomason@ensolum.com</i>				
Relinquished By:		Date: <i>2/27/25</i> Received By: <i>Jawara Oldafye</i>	REMARKS: Cost Center: 2125321001 Incident ID: nAPP2501553916				
		Time:					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C <u>3.1</u>	Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	Checked By: <i>✓</i> (Initials)	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> <i>140</i>	Bacteria (only) Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	Observed Temp. °C <i>3.4</i>
		Corrected Temp. °C <u>3.4</u>	Thermometer ID <i>140</i> Correction Factor <i>0.3°C</i> <i>+0.3°C</i>				Corrected Temp. °C <i>3.4</i>

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



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

March 28, 2025

JEREMY REICH
ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD, NM 88220

RE: CORRAL CANYON 8 SATELLITE - SPILLS

Enclosed are the results of analyses for samples received by the laboratory on 03/27/25 13:20.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 03/27/2025 Sampling Date: 03/25/2025
 Reported: 03/28/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE - SPILLS Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.142751-104.006738

Sample ID: SS 07B 2' (H251805-01)

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	03/27/2025	ND	1.97	98.6	2.00	4.61		
Toluene*	<0.050	0.050	03/27/2025	ND	2.02	101	2.00	3.38		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	1.97	98.6	2.00	3.21		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	5.86	97.7	6.00	2.78		
Total BTEX	<0.300	0.300	03/27/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	03/28/2025	ND	432	108	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	03/27/2025	ND	203	102	200	1.01		
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	208	104	200	9.80		
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND						

Surrogate: 1-Chlorooctane 105 % 44.4-145

Surrogate: 1-Chlorooctadecane 107 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 03/27/2025 Sampling Date: 03/25/2025
 Reported: 03/28/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE - SPILLS Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.142751-104.006738

Sample ID: SS 10 0.5' (H251805-02)

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	03/27/2025	ND	1.97	98.6	2.00	4.61		
Toluene*	<0.050	0.050	03/27/2025	ND	2.02	101	2.00	3.38		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	1.97	98.6	2.00	3.21		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	5.86	97.7	6.00	2.78		
Total BTEX	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	03/28/2025	ND	432	108	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	03/27/2025	ND	203	102	200	1.01		
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	208	104	200	9.80		
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND						

Surrogate: 1-Chlorooctane 96.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 03/27/2025 Sampling Date: 03/25/2025
 Reported: 03/28/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE - SPILLS Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.142751-104.006738

Sample ID: SS 09 0.5' (H251805-03)

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	03/27/2025	ND	1.97	98.6	2.00	4.61		
Toluene*	<0.050	0.050	03/27/2025	ND	2.02	101	2.00	3.38		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	1.97	98.6	2.00	3.21		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	5.86	97.7	6.00	2.78		
Total BTEX	<0.300	0.300	03/27/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6400	16.0	03/28/2025	ND	416	104	400	3.77	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	03/27/2025	ND	203	102	200	1.01		
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	208	104	200	9.80		
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND						

Surrogate: 1-Chlorooctane 99.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 JEREMY REICH
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 03/27/2025 Sampling Date: 03/25/2025
 Reported: 03/28/2025 Sampling Type: Soil
 Project Name: CORRAL CANYON 8 SATELLITE - SPILLS Sampling Condition: Cool & Intact
 Project Number: 03C1558597 Sample Received By: Tamara Oldaker
 Project Location: XTO 32.142751-104.006738

Sample ID: SS 09A 0.5' (H251805-04)

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	03/27/2025	ND	1.97	98.6	2.00	4.61		
Toluene*	<0.050	0.050	03/27/2025	ND	2.02	101	2.00	3.38		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	1.97	98.6	2.00	3.21		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	5.86	97.7	6.00	2.78		
Total BTEX	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7600	16.0	03/28/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	03/27/2025	ND	203	102	200	1.01		
DRO >C10-C28*	1110	10.0	03/27/2025	ND	208	104	200	9.80		
EXT DRO >C28-C36	951	10.0	03/27/2025	ND						

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 116 % 40.6-153

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

April 10, 2025

JEREMY REICH

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CORRAL CANYON 8 SATELLITE - SPILLS

Enclosed are the results of analyses for samples received by the laboratory on 03/27/25 13:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at

www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS 07B 2'	H251805-01	Soil	25-Mar-25 10:30	27-Mar-25 13:20
SS 10 0.5'	H251805-02	Soil	25-Mar-25 10:50	27-Mar-25 13:20
SS 09 0.5'	H251805-03	Soil	25-Mar-25 10:55	27-Mar-25 13:20
CS 01 0.5'	H251805-04	Soil	25-Mar-25 11:00	27-Mar-25 13:20

04/10/25 - Client changed the sample ID on -04 (see COC). This is the revised report and will replace the one sent on 03/28/25.

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A handwritten signature in black ink that reads "Cely D. Keene".

Cely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

SS 07B 2'**H251805-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	320	16.0	mg/kg	4	5032827	AC	28-Mar-25	4500-Cl-B
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Toluene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Ethylbenzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total Xylenes*	<0.150	0.150	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total BTEX	<0.300	0.300	mg/kg	50	5032720	JH	27-Mar-25	8021B

Surrogate: 4-Bromofluorobenzene (PID)	103 %	71.5-134	5032720	JH	27-Mar-25	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
Surrogate: 1-Chlorooctane		105 %	44.4-145		5032719	MS	27-Mar-25	8015B
Surrogate: 1-Chlorooctadecane		107 %	40.6-153		5032719	MS	27-Mar-25	8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

SS 10 0.5'**H251805-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	96.0	16.0	mg/kg	4	5032827	AC	28-Mar-25	4500-Cl-B
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Toluene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Ethylbenzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total Xylenes*	<0.150	0.150	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total BTEX	<0.300	0.300	mg/kg	50	5032720	JH	27-Mar-25	8021B

Surrogate: 4-Bromofluorobenzene (PID)	101 %	71.5-134	5032720	JH	27-Mar-25	8021B
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B

Surrogate: 1-Chlorooctane	96.9 %	44.4-145	5032719	MS	27-Mar-25	8015B
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Surrogate: 1-Chlorooctadecane	95.6 %	40.6-153	5032719	MS	27-Mar-25	8015B
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Cely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

SS 09 0.5'**H251805-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	6400	16.0	mg/kg	4	5032825	HM	28-Mar-25	4500-Cl-B	QM-07
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Toluene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Ethylbenzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total Xylenes*	<0.150	0.150	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total BTEX	<0.300	0.300	mg/kg	50	5032720	JH	27-Mar-25	8021B

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134 5032720 JH 27-Mar-25 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
Surrogate: 1-Chlorooctane		99.6 %	44.4-145		5032719	MS	27-Mar-25	8015B
Surrogate: 1-Chlorooctadecane		98.9 %	40.6-153		5032719	MS	27-Mar-25	8015B

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Cely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

CS 01 0.5'**H251805-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories**Inorganic Compounds**

Chloride	7600	16.0	mg/kg	4	5032825	HM	28-Mar-25	4500-Cl-B
----------	------	------	-------	---	---------	----	-----------	-----------

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Toluene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Ethylbenzene*	<0.050	0.050	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total Xylenes*	<0.150	0.150	mg/kg	50	5032720	JH	27-Mar-25	8021B
Total BTEX	<0.300	0.300	mg/kg	50	5032720	JH	27-Mar-25	8021B

Surrogate: 4-Bromofluorobenzene (PID)	101 %	71.5-134	5032720	JH	27-Mar-25	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
DRO >C10-C28*	1110	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B
EXT DRO >C28-C36	951	10.0	mg/kg	1	5032719	MS	27-Mar-25	8015B

Surrogate: 1-Chlorooctane	103 %	44.4-145	5032719	MS	27-Mar-25	8015B
---------------------------	-------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	116 %	40.6-153	5032719	MS	27-Mar-25	8015B
-------------------------------	-------	----------	---------	----	-----------	-------

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*=Accredited Analyte

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Cely D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

Batch 5032825 - 1:4 DI Water

Blank (5032825-BLK1)	Prepared & Analyzed: 28-Mar-25							
Chloride	ND	16.0	mg/kg					
LCS (5032825-BS1)	Prepared & Analyzed: 28-Mar-25							
Chloride	416	16.0	mg/kg	400	104	80-120		
LCS Dup (5032825-BSD1)	Prepared & Analyzed: 28-Mar-25							
Chloride	432	16.0	mg/kg	400	108	80-120	3.77	20

Batch 5032827 - 1:4 DI Water

Blank (5032827-BLK1)	Prepared & Analyzed: 28-Mar-25							
Chloride	ND	16.0	mg/kg					
LCS (5032827-BS1)	Prepared & Analyzed: 28-Mar-25							
Chloride	432	16.0	mg/kg	400	108	80-120		
LCS Dup (5032827-BSD1)	Prepared & Analyzed: 28-Mar-25							
Chloride	432	16.0	mg/kg	400	108	80-120	0.00	20

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A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

Batch 5032720 - Volatiles

Blank (5032720-BLK1)				Prepared & Analyzed: 27-Mar-25			
Benzene	ND	0.050	mg/kg				
Toluene	ND	0.050	mg/kg				
Ethylbenzene	ND	0.050	mg/kg				
Total Xylenes	ND	0.150	mg/kg				
Total BTEX	ND	0.300	mg/kg				
Surrogate: 4-Bromofluorobenzene (PID)	0.0506		mg/kg	0.0500	101	71.5-134	

LCS (5032720-BS1)				Prepared & Analyzed: 27-Mar-25			
Benzene	1.97	0.050	mg/kg	2.00	98.6	82.8-130	
Toluene	2.02	0.050	mg/kg	2.00	101	86-128	
Ethylbenzene	1.97	0.050	mg/kg	2.00	98.6	85.9-128	
m,p-Xylene	3.91	0.100	mg/kg	4.00	97.7	89-129	
o-Xylene	1.96	0.050	mg/kg	2.00	97.8	86.1-125	
Total Xylenes	5.86	0.150	mg/kg	6.00	97.7	88.2-128	
Surrogate: 4-Bromofluorobenzene (PID)	0.0452		mg/kg	0.0500	90.5	71.5-134	

LCS Dup (5032720-BSD1)				Prepared & Analyzed: 27-Mar-25			
Benzene	2.07	0.050	mg/kg	2.00	103	82.8-130	4.61
Toluene	2.09	0.050	mg/kg	2.00	104	86-128	3.38
Ethylbenzene	2.04	0.050	mg/kg	2.00	102	85.9-128	3.21
m,p-Xylene	4.02	0.100	mg/kg	4.00	100	89-129	2.74
o-Xylene	2.01	0.050	mg/kg	2.00	101	86.1-125	2.87
Total Xylenes	6.03	0.150	mg/kg	6.00	100	88.2-128	2.78
Surrogate: 4-Bromofluorobenzene (PID)	0.0442		mg/kg	0.0500	88.3	71.5-134	

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Cely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: CORRAL CANYON 8 SATELLITE - S
Project Number: 03C1558597
Project Manager: JEREMY REICH
Fax To:

Reported:
10-Apr-25 17:41

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

Batch 5032719 - General Prep - Organics**Blank (5032719-BLK1)**

		Prepared & Analyzed: 27-Mar-25				
GRO C6-C10	ND	10.0	mg/kg			
DRO >C10-C28	ND	10.0	mg/kg			
EXT DRO >C28-C36	ND	10.0	mg/kg			
Surrogate: 1-Chlorooctane	50.8		mg/kg	50.0	102	44.4-145
Surrogate: 1-Chlorooctadecane	51.5		mg/kg	50.0	103	40.6-153

LCS (5032719-BS1)

		Prepared & Analyzed: 27-Mar-25				
GRO C6-C10	203	10.0	mg/kg	200	102	81.5-123
DRO >C10-C28	208	10.0	mg/kg	200	104	77.7-122
Total TPH C6-C28	412	10.0	mg/kg	400	103	80.9-121
Surrogate: 1-Chlorooctane	51.5		mg/kg	50.0	103	44.4-145
Surrogate: 1-Chlorooctadecane	52.0		mg/kg	50.0	104	40.6-153

LCS Dup (5032719-BSD1)

		Prepared & Analyzed: 27-Mar-25				
GRO C6-C10	201	10.0	mg/kg	200	101	81.5-123
DRO >C10-C28	189	10.0	mg/kg	200	94.5	77.7-122
Total TPH C6-C28	390	10.0	mg/kg	400	97.6	80.9-121
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0	110	44.4-145
Surrogate: 1-Chlorooctadecane	53.1		mg/kg	50.0	106	40.6-153

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Relinquished By:	Date: 3/27/05	Received By: Maura Doherty	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Time: 13:00	Received By:	All Results are emailed. Please provide Email address: JReich@ensolum.com
	Date:		EBell@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com, KThomason@ensolum.com
	Time:		REMARKS: *Customer requested ID check
Delivered By: (Circle One)	Observed Temp. °C 18.5	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No	Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C 18.5	Initials JDS	Thermometer ID #13 <input checked="" type="checkbox"/> 24 hr Correction Factor -0.1°C <input checked="" type="checkbox"/> 10.30

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



Appendix G

Excavation Guidance Document



August 25, 2025

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

Re: Excavation Guidance Document
Corral Canyon 8 Satellite
Incident Number nAPP2501553916
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) has prepared this document on behalf of XTO Energy, Inc. (XTO), to provide guidance on safety precautions related to the proposed excavation near existing production equipment. This guidance applies to the proposed excavation and applies only to the Corral Canyon 8 Satellite (Site), for which an Area of Requested Deferral is attached as Figure 1.

This document has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) Excavation Standard 29 Code of Federal Regulations (CFR) Part 1926 Sub-part P Section 1926.652(i) and 1926.652(j) and under the consultation of a Registered Professional Engineer (RPE). The document includes a review of the stability of adjacent structures and protection of employees from loose rocks, soil, and equipment and analysis of the following parameters:

- Soil types and conditions leading to cave-ins;
- Stability of engineered facility equipment with requested excavation;
- Protection of employees from materials and equipment that could fall or roll into an excavation; and
- Other hazardous conditions, including confined spaces.

This guidance document must be reviewed before starting any proposed excavation activities and kept on site if excavation activities are occurring. In addition, a copy of the OSHA Excavation Standard 29 CFR Part 1926 Sub-part P will be kept on site.

Review of OSHA Excavation Standards indicates the following guidance for general excavation activities:

- The walls of any excavated areas must be sloped to a maximum 1 horizontal to 1 vertical for Type B soils.
- OSHA Excavation Standard 29 CFR Part 1926 Sub-part P indicates the following:
 - Excavation below the level of the base or footing of any foundation or retaining wall poses a reasonable hazard to employees and should not be conducted without the removal of equipment adjacent to the proposed excavation and/or installation of physical safety measures such as shoring or other protective structures to prevent structural failure of the equipment foundation and to ensure safety to employees working near the proposed excavation.

XTO Energy, Inc
Excavation Guidance Document
Corral Canyon 8 Satellite

- Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into any excavation. Protection shall be provided by placing and keeping such materials or equipment at least two feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.
- When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a Competent Person shall determine the degree to which the actual slope must be reduced below the maximum allowable slope and shall assure that such a reduction is achieved. Surcharge loads from adjacent structures shall be evaluated in accordance with § 1926.651(i).

EXCAVATION ANALYSIS PARAMETERS

The following findings were observed at the Site:

- Type B soil was observed during the Site visit. Type B soil will be utilized for determining excavation slopes and excavation setbacks. A competent person will inspect the site daily and note any changes in soil type during excavation activities. If type A or type C soil is identified, the excavation slope and excavation setback will be modified to account for this change.
- The proposed excavation area entails a polygon with maximum dimensions of 86 feet by 78 feet directly adjacent to and beneath production equipment and active pipelines as shown on Figure 2.
- Along the southern portion of the proposed excavation area are multiple production pipelines lying on supports of varying dimensions and three horizontal separators supported by square tubing bases. The production pipelines range in diameter from 1.5 inches to 13.5 inches. The horizontal separators are arbitrarily identified as Horizontal Separator A, Horizontal Separator B, and Horizontal Separator C in Figure 2 for ease of reference. Horizontal Separator A measures 12 feet in diameter with a length of 33.5 feet. Horizontal Separator B and Horizontal Separator C measure 8.5 feet in diameter with a length of 20.5 feet.
- Within the central portion of the proposed excavation area are multiple production pipelines supported by a pipe conduit supported by square tubing. The pipe conduit measures 18 feet 10 inches wide by 250 feet long.
- Along the northern portion of the proposed excavation area are multiple production pipelines supported by a pipe inlet array and a LACT containment laying directly on pad surface. The pipe inlet array measures 10 feet wide by 12 feet long. The LACT containment measures 18.5 feet wide by 36.5 feet long.
- The production pipeline supports throughout the entire proposed excavation area range in dimensions of 4 inches wide by 10 inches long up to 9 inches wide by 20 feet long.

ENGINEER RECOMMENDATIONS

Review of the above-mentioned parameters, OSHA regulations, and Site conditions observed during Site visits were completed and the following RPE recommendations were reached:

- Using the southern horizontal separator structures bearing capacity in Boussinesq's square footing equation, the bearing capacity would be undermined with slopes beginning less than two times the width of the footing. The beginning of the slope should be limited to beginning no less than 37 feet from the edge of the Horizontal Separator A footing and no less than 20 feet from the edge of the Horizontal Separators B and C without substantial supports added to the structure.

XTO Energy, Inc
Excavation Guidance Document
Corral Canyon 8 Satellite

- A safe excavation distance from the central pipe conduit structure can be estimated by using the Boussinesq solution for infinitely long footing strip foundations assuming the underlain soil is homogenous and isotropic. Pictorials illustrating the Boussinesq solution lateral pressures and isobars are included in Appendix A. The beginning of the slope should be limited to beginning no less than 18 feet 10 inches from the edge of the pipe rack footing to prevent disruption of the stability of underlain soil.
- Using the northern pipe inlet array structure bearing capacity in Boussinesq's square footing equation, the bearing capacity would be undermined with slopes beginning less than 2 times the width of the footing. The beginning of the slope should be limited to beginning no less than 20 feet from the edge of the pipe inlet array structure footing without substantial supports added to the structure.
- Using the northern LACT structure bearing capacity in Boussinesq's square footing equation, the bearing capacity would be undermined with slopes beginning less than 2 times the width of the footing. The beginning of the slope should be limited to beginning no less than 37 feet from the edge of the LACT structure footing without substantial supports added to the structure.
- The production pipelines that the proposed excavation area are supported by footings of varying dimensions. The beginning of the slope should be limited to beginning no less than two feet from the edge of any pipeline support per above stated OSHA guidelines or no less than 5 times the diameter of a pipeline lying directly on pad surface, whichever is greater. Review of the potential pipe stress and deflection during an excavation directly below pipelines, the pipelines can experience increased tension and compression causing increased hoop stress. Even if additional supports are installed in the process of excavation, the brief time they remain unsupported can cause pipe fatigue and eventually pipe failure. It is reasonable to assume that an increase in hoop stress and increase of pipe fatigue on the pipeline system can exceed the engineered parameters and lead to pipeline failure resulting in an additional release. It is not recommended to excavate directly below any of the pipelines.

CONCLUSIONS

Based on the dimensions of the requested excavation and presence of adjacent structures, there is inadequate structure support to conduct excavation of the identified impacted soil in a manner that protects both personnel health and equipment stability.

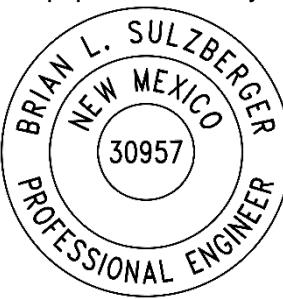
Sincerely,

Ensolum, LLC

08/25/2025

Brian Sulzberger

Brian Sulzberger, PE
Associate Principal



cc: Robert Woodall, XTO
Kaylan Dirkx, XTO
Bureau of Land Management

Appendices:

Figure 1 Deferral Location
Figure 2 Area of Interest Diagram
Appendix A Engineering Models

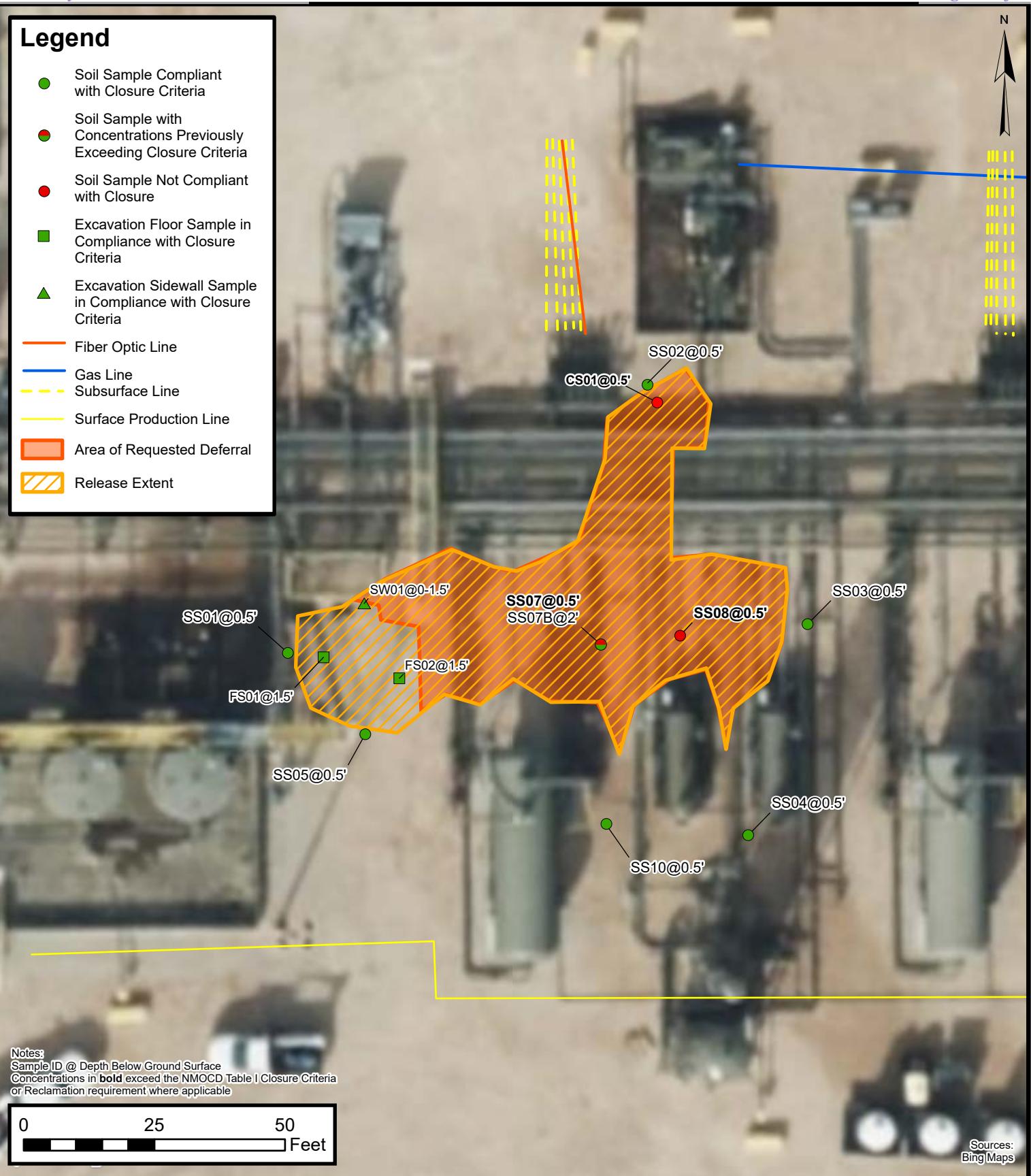
E N S O L U M



FIGURES

Legend

- Soil Sample Compliant with Closure Criteria
- Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Soil Sample Not Compliant with Closure
- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Fiber Optic Line
- Gas Line
- Subsurface Line
- Surface Production Line
- Area of Requested Deferral
- Release Extent



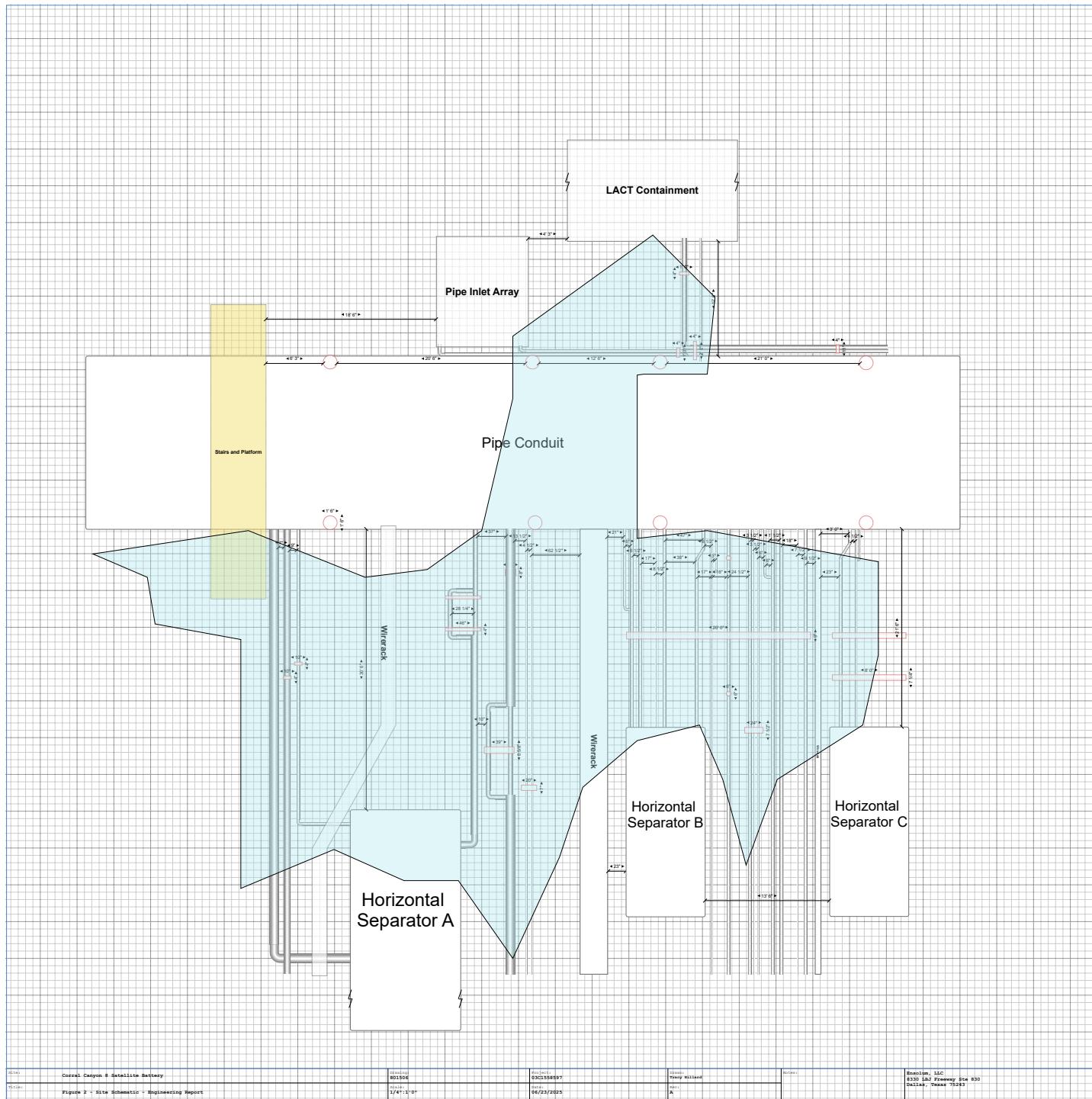
Area of Requested Deferral

XTO Energy, Inc
 Corral Canyon 8 Satellite
 Incident Number: nAPP2501553916
 Unit J & K-08-25S-29E
 Eddy County, New Mexico



Environmental, Engineering and
 Hydrogeologic Consultants

FIGURE
1





Appendix A Engineering Models

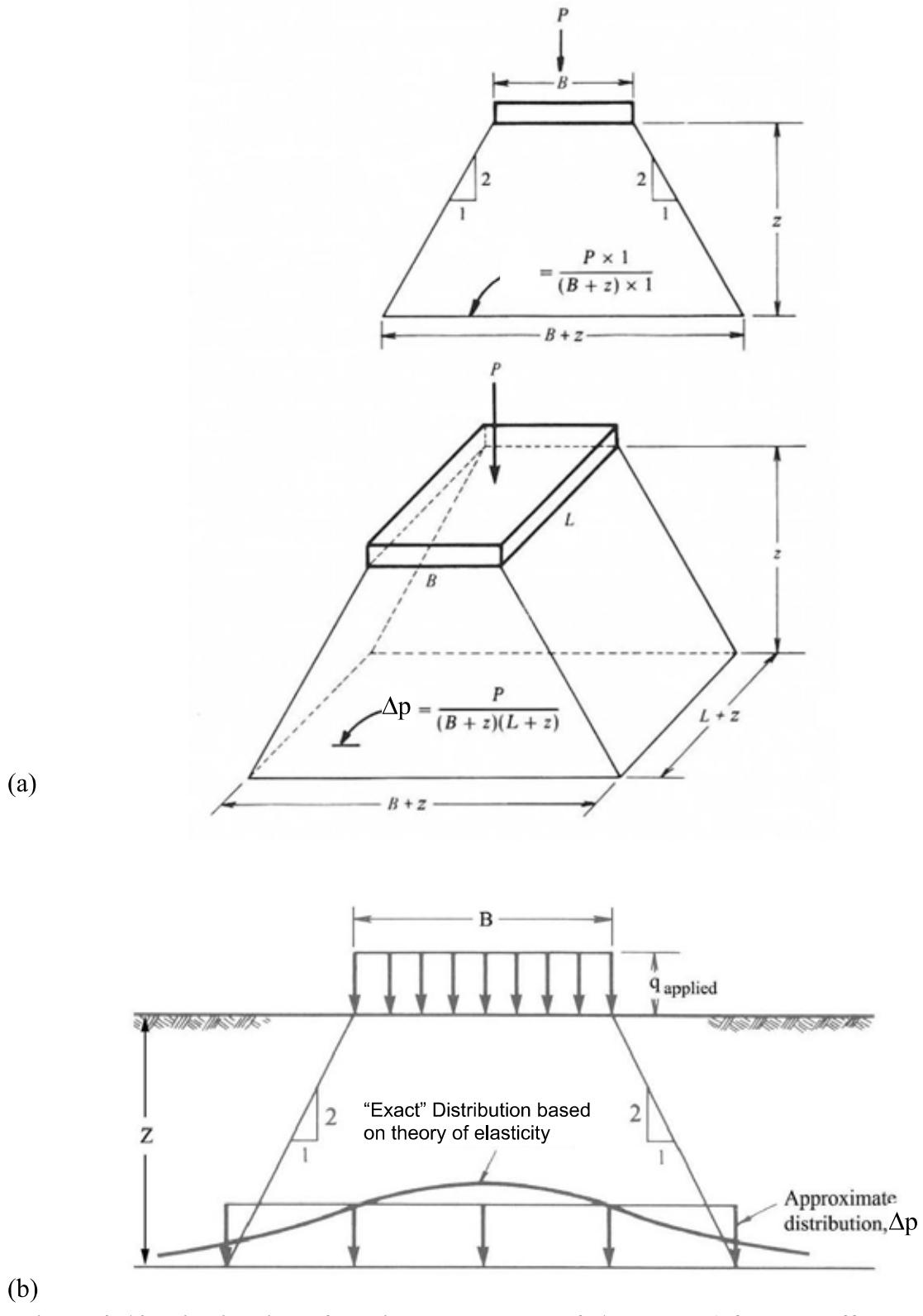


Figure 2-10. Distribution of vertical stress by the 2:1 method (after Perloff and Baron, 1976).

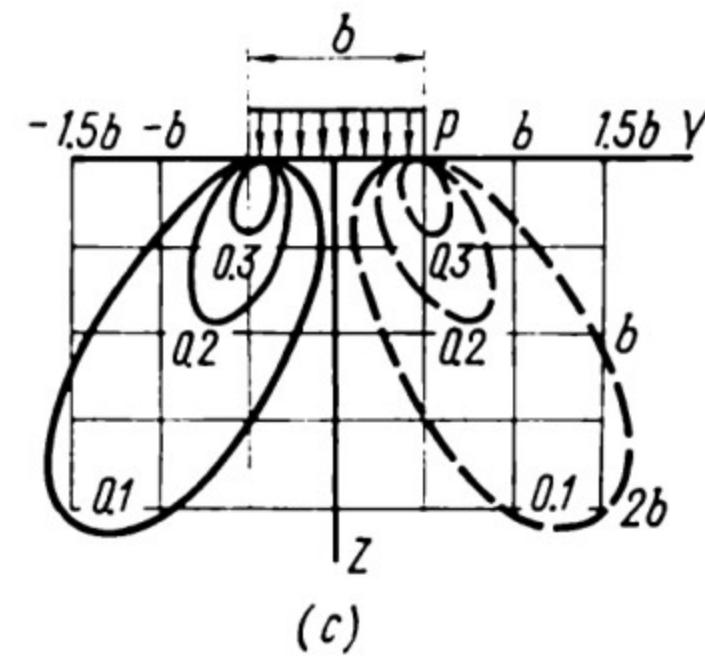
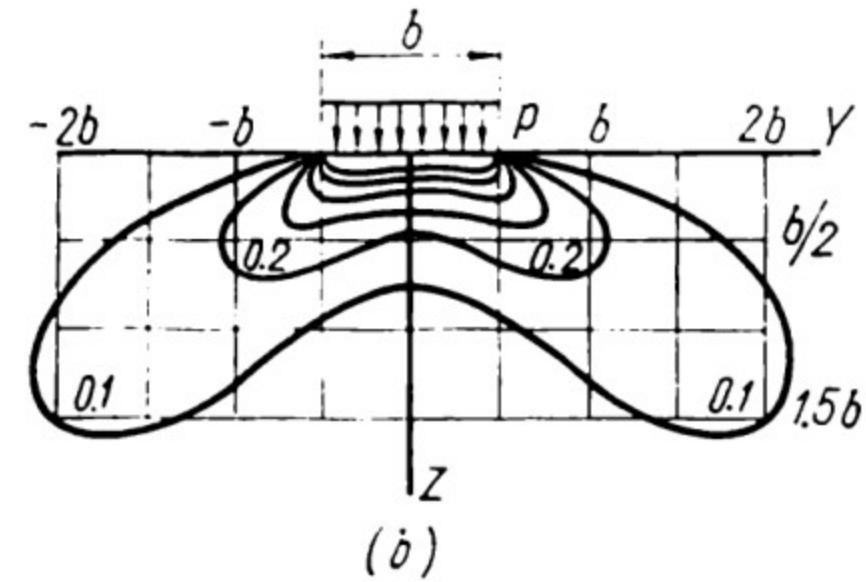
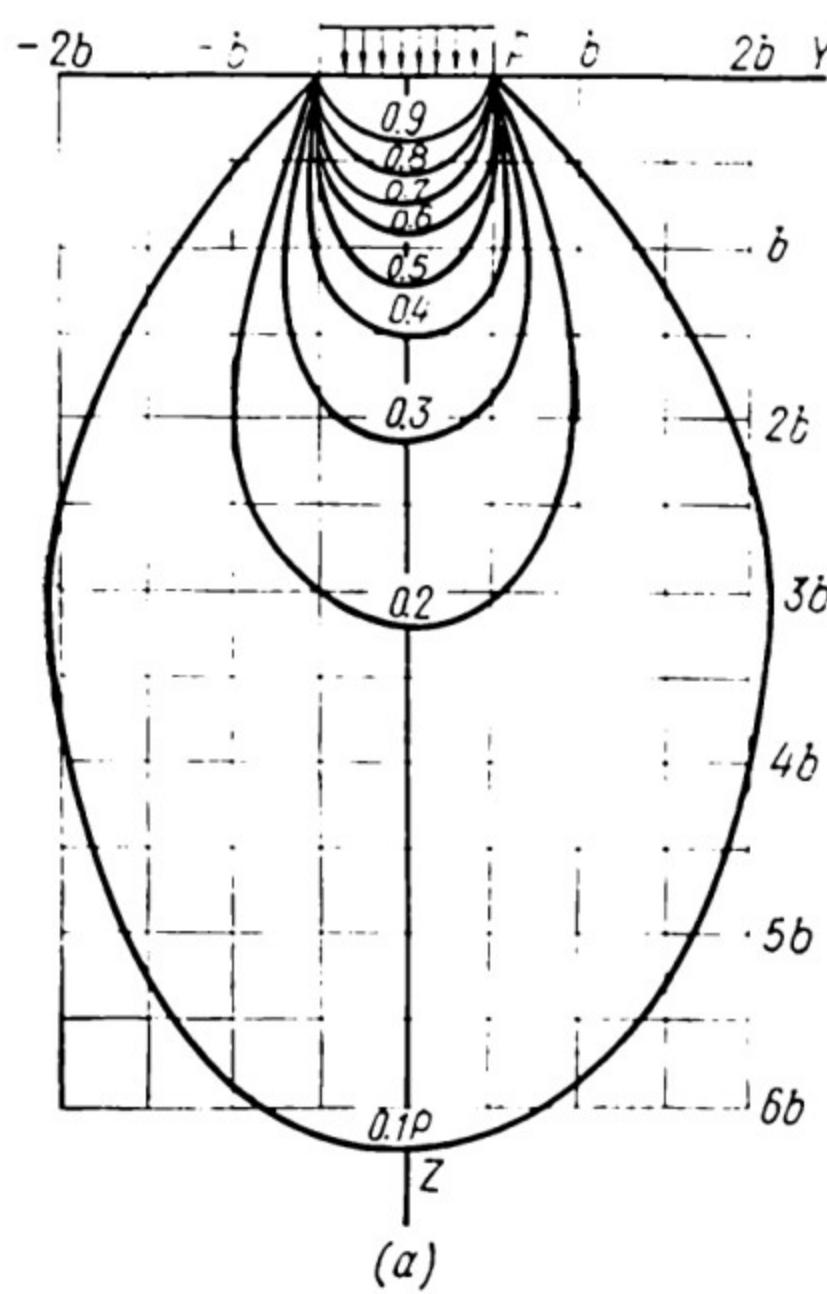
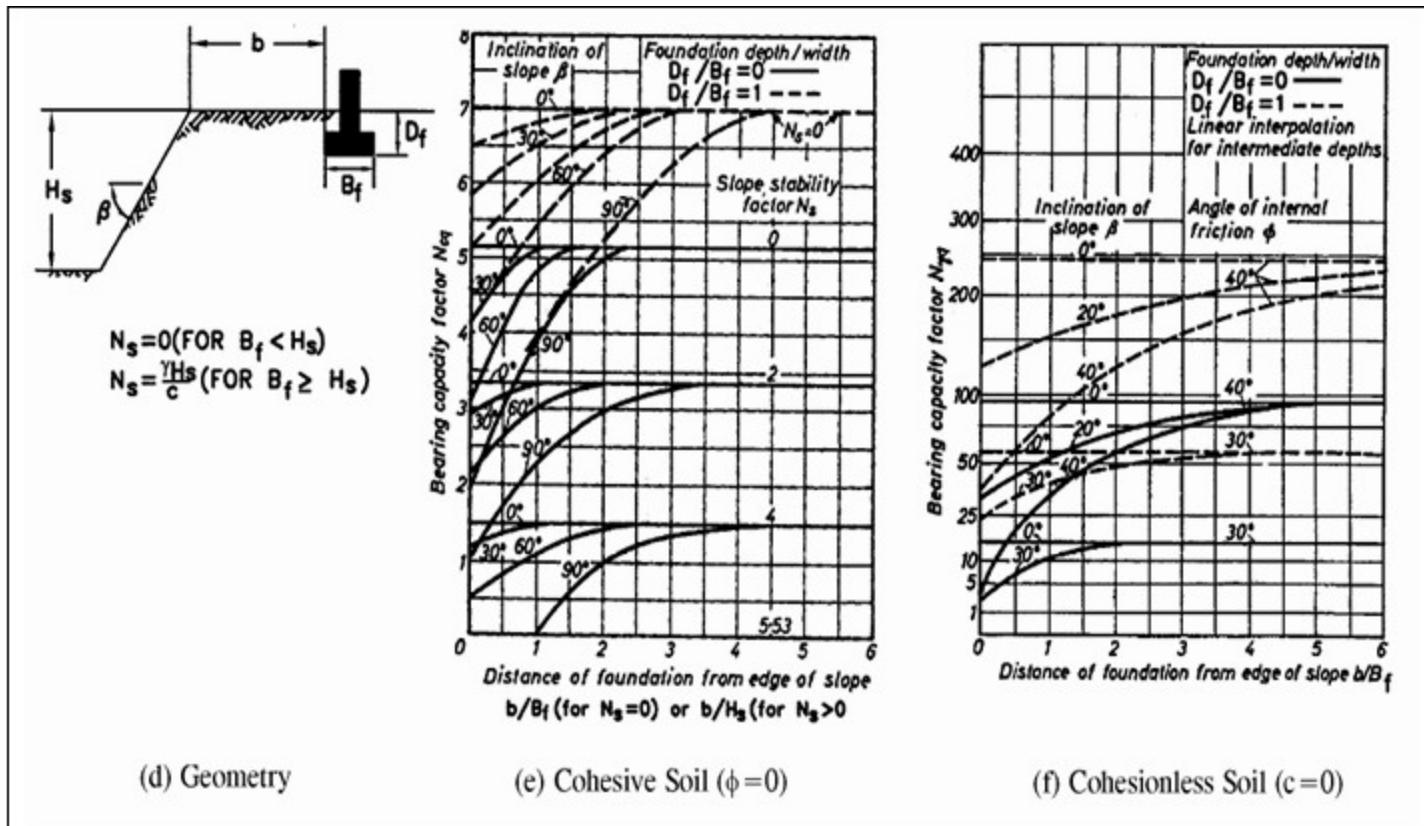


Fig. 49. Lines of equal stresses in a linearly deformable massif for the planar problem

(a) isobars σ_z ; (b) lateral pressure σ_y ; (c) shears τ_{zx}





Appendix H Spill Volume Calculation

Location:	Corral Canyon 8 Sat	
Spill Date:	1/14/2025	
Area 1		
Approximate Area =	3700.00	sq. ft.
Average Saturation (or depth) of spill =	2.00	inches
Average Porosity Factor =	0.25	
VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	32.50	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	32.50	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =		bbls
Total Produced Water =	5.00	bbls

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

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

QUESTIONS

Action 421259

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 421259
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2501553916
Incident Name	NAPP2501553916 CORRAL CANYON 8 SATELLITE @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2207552359] CORRAL CANYON 8 SAT

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Corral Canyon 8 Satellite
Date Release Discovered	01/14/2025
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: Corrosion Flow Line - Production Produced Water Released: 33 BBL Recovered: 5 BBL Lost: 28 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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Phone: (505) 629-6116

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

QUESTIONS, Page 2

Action 421259

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 421259
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

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	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.

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	
<i>The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.</i>	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

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

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

I hereby agree and sign off to the above statement	Name: Robert Woodall Title: Environmental Analyst Email: robert.d.woodall@exxonmobil.com Date: 01/15/2025
--	--

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QUESTIONS, Page 3

Action 421259

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 421259
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	<i>Not answered.</i>
What method was used to determine the depth to ground water	<i>Not answered.</i>
Did this release impact groundwater or surface water	<i>Not answered.</i>
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	<i>Not answered.</i>
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	<i>Not answered.</i>
An occupied permanent residence, school, hospital, institution, or church	<i>Not answered.</i>
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	<i>Not answered.</i>
Any other fresh water well or spring	<i>Not answered.</i>
Incorporated municipal boundaries or a defined municipal fresh water well field	<i>Not answered.</i>
A wetland	<i>Not answered.</i>
A subsurface mine	<i>Not answered.</i>
An (non-karst) unstable area	<i>Not answered.</i>
Categorize the risk of this well / site being in a karst geology	<i>Not answered.</i>
A 100-year floodplain	<i>Not answered.</i>
Did the release impact areas not on an exploration, development, production, or storage site	<i>Not answered.</i>

Remediation Plan

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

Requesting a remediation plan approval with this submission	No
<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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CONDITIONS

Action 421259

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 421259
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	1/17/2025

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QUESTIONS

Action 523538

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2501553916
Incident Name	NAPP2501553916 CORRAL CANYON 8 SATELLITE @ FAPP2207552359
Incident Type	Produced Water Release
Incident Status	Deferral Request Received
Incident Facility	[fAPP2207552359] CORRAL CANYON 8 SAT

Location of Release Source

Please answer all the questions in this group.

Site Name	CORRAL CANYON 8 SATELLITE
Date Release Discovered	01/14/2025
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	<i>Not answered.</i>
Produced Water Released (bbls) Details	<i>Cause: Corrosion Flow Line - Production Produced Water Released: 33 BBL Recovered: 5 BBL Lost: 28 BBL.</i>
Is the concentration of chloride in the produced water >10,000 mg/l	<i>Yes</i>
Condensate Released (bbls) Details	<i>Not answered.</i>
Natural Gas Vented (Mcf) Details	<i>Not answered.</i>
Natural Gas Flared (Mcf) Details	<i>Not answered.</i>
Other Released Details	<i>Not answered.</i>
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	<i>Not answered.</i>

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QUESTIONS, Page 2

Action 523538

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

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	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.

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	
<i>The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.</i>	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 11/05/2025
--	---

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QUESTIONS, Page 3

State of New Mexico
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Action 523538

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (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	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	

Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

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

Chloride (EPA 300.0 or SM4500 Cl B)	7600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	2061
GRO+DRO (EPA SW-846 Method 8015M)	1110
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	01/29/2025
On what date will (or did) the final sampling or liner inspection occur	03/25/2025
On what date will (or was) the remediation complete(d)	03/25/2025
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	337
What is the estimated volume (in cubic yards) that will be remediated	20

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

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

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QUESTIONS, Page 4

Action 523538

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Remediation Plan (continued)

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

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

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fJEG1635837366 OWL LANDFILL JAL
OR which OCD approved well (API) will be used for off-site disposal	<i>Not answered.</i>
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Environmental karst study, engineering field measurements

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 11/05/2025
--	---

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

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QUESTIONS, Page 5

Action 523538

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

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	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Is the remaining contamination in areas immediately under or around production equipment where remediation could cause a major facility deconstruction	Yes
Please list or describe the production equipment and how (re)moving the equipment would cause major facility deconstruction	Horizontal separators, LACT unit and containment, surface piping and support footings.
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	1762
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	131

Per Paragraph (2) of Subsection C of 19.15.29.12 NMAC if contamination is located in areas immediately under or around production equipment such as production tanks, wellheads and pipelines where remediation could cause a major facility deconstruction, the remediation, restoration and reclamation may be deferred with division written approval until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.

Enter the facility ID (f#) on which this deferral should be granted	fAPP2207552359 CORRAL CANYON 8 SAT
Enter the well API (30-) on which this deferral should be granted	Not answered.
Contamination does not cause an imminent risk to human health, the environment, or groundwater	True

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 11/05/2025
--	---

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QUESTIONS, Page 6

Action 523538

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	443920
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	03/25/2025
What was the (estimated) number of samples that were to be gathered	2
What was the sampling surface area in square feet	400

Remediation Closure Request

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

Requesting a remediation closure approval with this submission	No
--	-----------

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CONDITIONS

Action 523538

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 523538
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Deferral is approved. Remediation Due date will be left open until the site has been plugged and abandoned or a major facility deconstruction takes place.	1/2/2026