ENSOLUM

October 6, 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
BEU DI 29 Pad
Incident Number nAPP2434828618
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Deferral Request* for the BEU DI 29 Pad (Site). This *Deferral Request* includes the additional information requested in a denial by the New Mexico Oil Conservation Division (NMOCD) of a previously submitted Deferral Request, submitted on March 10, 2025. In the denial, NMOCD expressed concern that the potential medium potential karst designation of the Site posed an imminent risk to groundwater. As such, NMOCD requested a karst survey and an evaluation of the soil type and review of safe excavation distances. XTO is providing the additional information requested by NMOCD and, after evaluation of that information, requesting no further action for Incident Number nAPP2434828618.

BACKGROUND

The Site is located in Unit D, Section 21, Township 20 South, Range 32 East, in Lea County, New Mexico (32.564955º, -103.778164º) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management. It was originally reported as being associated with State Land managed by the New Mexico State Land Office (SLO) but after further review of available land access maps, it was confirmed to be located on Federal Land.

On December 10, 2024, failure of a dump valve resulted in the release of 8 barrels (bbls) of produced water and 1 bbl of crude oil into a lined containment and released overspray on and between active production structures, engineered facility equipment, and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 8 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) on December 13, 2024 and subsequently submitted an Initial C-141 Application (C-141) on December 17, 2024. The release was assigned Incident Number nAPP2434828618.

As documented in the March 10, 2025 Deferral Request report, impacted soil was surface scraped from the release area as indicated by visibly stained soil. A total of approximately 16 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Halfway Disposal and Landfill in Hobbs, New Mexico. Following removal of impacted soil to the maximum extent practicable (MEP), Ensolum personnel collected 5-point composite

soil samples representing no more than 200 square feet from the accessible areas from the release. Eight confirmation soil samples, CS01 through CS08, were collected from a depth of 0.5 feet below ground surface (bgs) from within the release extent. Laboratory analytical results for confirmation soil samples CS01 through CS03, and CS06 indicated all contaminants of concern (COCs) were in compliance with Closure Criteria. Confirmation soil samples CS04, CS05, CS07, and CS08 indicated Total Petroleum Hydrocarbons (TPH) and/or chloride concentrations exceeded Closure Criteria. Lateral delineation of the residual impacted soil was defined by delineation soil samples SS01 through SS07. Vertical delineation of residual impacted soil was defined by delineation soil samples BH01 and BH02 at 1-foot bgs. An estimated area of impacted soil left in place immediately adjacent to or below active production equipment measured approximately 1,640 square feet and a total of approximately 61 cubic yards of impacted soil remained in place.

On April 7, 2025, NMOCD denied the March 10, 2025, Deferral Request report for the following reasons:

> *This site is located in a medium karst potential occurrence zone and OCD has recently reevaluated karst potential zones and will not approve deferrals in these areas as medium karst may cause an imminent risk to groundwater. The operator may choose to have karst surveys performed, by a BLM approved karst/cave contractor, in order to determine if karst features are present at the site. A desktop survey, aerial/pedestrian survey, AND a geophysical survey must be performed. If no karst features are located during any of the surveys AND the geophysical survey shows no other indications of unstable ground, the closure criteria can be based on Table I Closure criteria found in 19.15.29 NMAC. Sites located on BLM or State Land Office (SLO) owned surface will need surface owner approval.*
>
> *In addition, a certified civil engineer will need to evaluate the soil type and provide the minimum distance the excavation(s) needs to be from the equipment and how deep the excavation(s) can be prior to requesting a deferral. This document must be stamped by the engineer.*
>
> *The deferral area needs to be vertically delineated within the area where the highest contamination remains prior to a deferral approval.*
>
> *Under the Site Characterization portion of the C-141 application, update the minimum distance to any other significant watercourse—it should be ½-1 mile (west).*
>
> *Remediation summary and Figure 2 call it BH02 whereas Table 1 and Laboratory report calls it BH03. Update everything to reflect the correct name.*
>
> *A remediation closure report or updated deferral request is due to the OCD by 7/7/25*

Based on NMOCDs response, an engineering review, a karst survey coordination, and additional remediation activities were warranted.

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, a 66-foot by 36-foot section directly adjacent to and beneath active production equipment. Immediately adjacent to the deferred soil is an engineered lined containment and an engineered pipe rack.

Based on the Site conditions and following OSHA Excavation Standards, the RPE recommendation indicates excavation should not be completed within 2 feet of the edge of the lined containment, within

15.5 feet from the edge of the tanks within the lined containment, within 30 feet from the center of the 6-foot pipe rack footing, or within 20 feet from the center of the 4-foot pipe rack footing. As such, the surface scrape extent completed to date, originally presented in the March 2025 Deferral Request, based on the engineering calculations, the excavation should not be extended closer to the equipment or made deeper while maintaining the safety of all onsite personnel and the structural integrity of the active production equipment as determined by the RPE.

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

KARST SURVEY RESULTS

Southwest Geophysical Consulting, a BLM-approved third-party cave/karst contractor, conducted a desktop survey, aerial survey, and geophysical survey of the Site. In summary, no surface karst features within the 200-foot survey area surrounding the release extent were identified in the desktop or surface karst surveys. Results of the geophysical study indicated stable ground with no anomalies in the data, that would be consistent with air-filled subsurface voids or a pathway to groundwater.

The detailed Karst Survey report provided by Southwest Geophysical Consulting is included in Appendix B.

ADDITIONAL DELINEATION ACTIVITIES

On October 2, 2025, Ensolum personnel returned to the Site to conduct delineation activities. One additional borehole, BH03, was advanced via hand auger to a terminal depth of 2 feet bgs in the vicinity of confirmation soil sample CS05. Discrete delineation soil samples were collected from the borehole at depths of 0.5 feet, 1-foot, and 2 feet bgs. 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. Field screening results and observations of the soil samples collected from the borehole were logged on a lithologic/soil sampling log, which is included in Appendix C. The delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 1. Photographic documentation of all site activities are included in Appendix D.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the Site location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, or Eurofins Laboratory (Eurofins) in Carlsbad, New Mexico, for analysis of the following COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500 or EPA Method 300.0.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples collected in BH03 indicated all COCs were in compliance with the Site Closure Criteria, successfully confirming the vertical extent of the requested area of deferral. Laboratory analytical results are summarized in Table 1. Laboratory analytical reports for BH03 and the updated laboratory analytical report needed for samples collected in BH02 are included in Appendix E.

DEFERRAL REQUEST

Following the NMOCDs comments from the March 2025 Deferral Report denial, further investigation at the Site was conducted that included an engineering review, a karst survey, and additional delineation activities. The March 2025 Deferral Request report is provided in Appendix F.

XTO has removed soil to the MEP, with further progress restricted by challenging soil conditions that are prone to collapse and nearby active production equipment. The recommendations in the *Excavation Guidance Document* restrict further ground disturbance near production equipment, and XTO believes it is unsafe to remove any further impacted soil without a major facility reconstruction.

The results of the karst survey confirm there is no imminent risk to groundwater at the Site based on the absence of any visible karst features through desktop and pedestrian surveys, and the absence of any anomalies through the geophysical survey that would otherwise indicate potential subsurface voids. The absence of karst features beneath the Site indicates the subsurface is stable and there is no imminent threat to human health, the environment, or groundwater, which eliminates the sensitive receptor as it relates to the Site.

Laboratory analytical results for the delineation soil samples collected in BH03 indicated all COCs were in compliance with the strictest Table I Closure Criteria, successfully confirming the vertical extent of the requested area of deferral. As such, based on removal of impacted soil to the MEP, and full delineation of the release to the Site Closure Criteria, XTO requests deferral of final remediation for Incident Number nAPP2434828618 until 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

Tracy Hillard
Project Manager

Benjamin J. Belill
Senior Geologist

cc: Robert Woodall, XTO
Richard Kotzur, XTO
BLM

Appendices:

Figure 1	Requested Area of Deferral
Table 1	Soil Sample Analytical Results
Appendix A	Excavation Guidance Document
Appendix B	Environmental Karst Study Report
Appendix C	Lithologic Soil Sampling Logs

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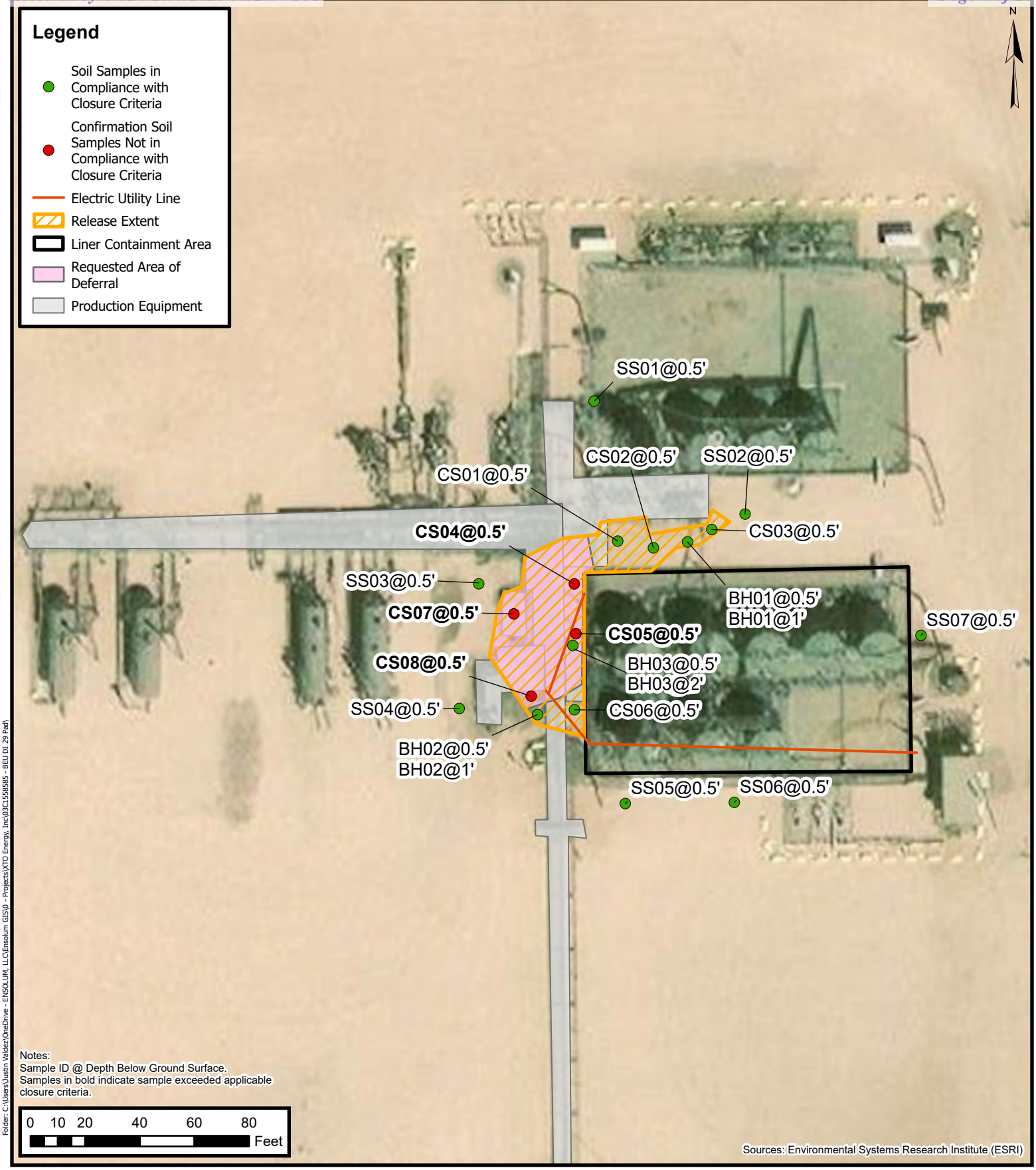
FIGURES



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Requested Area of Deferral

XTO Energy, Inc
BEU DI 29 Pad
Incident Number: nAPP2434828618
Unit D, Section 21, T 20S, R 32E
Lea County, New Mexico

FIGURE 1

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU DI 29 PAD
XTO Energy, Inc
Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Delineation Soil Samples										
SS01	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SS02	02/27/2025	0.5	<0.050	<0.300	<10.0	12.7	<10.0	12.7	12.7	64.0
SS03	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS04	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS05	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS06	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS07	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
BH01	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
BH01	02/26/2025	1	<0.050	<0.300	<10.0	13.5	<10.0	13.5	13.5	96.0
BH02	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH02	02/26/2025	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH03	10/02/2025	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	386
BH03	10/02/2025	2	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	214
Confirmation Soil Samples										
CS01	02/26/2025	0.5	<0.050	<0.300	<10.0	22.8	<10.0	22.8	22.8	80.0
CS02	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
CS03	02/27/2025	0.5	<0.050	<0.300	<10.0	300	52.7	<10.0	<10.0	128
CS04	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**5,040**
CS05	02/27/2025	0.5	<0.050	16.6	441	3,440	476	3,881	**4,357**	**992**
CS06	02/27/2025	0.5	<0.050	<0.300	<10.0	41.8	<10.0	41.8	41.8	208
CS07	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**2,040**
CS08	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**6,100**

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

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APPENDIX A

Excavation Guidance Document

ENSOLUM

October 3, 2025

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

Re: Excavation Guidance Document
BEU DI 29 Pad
Incident Number nAPP2434828618
Lea 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 BEU DI 29 Pad (Site), for which a Site Map 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.

- 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:

- Soil type B was observed in the Site visit. Type B soil will be utilized for the recommendation. In the event of excavation activities, a competent person will inspect the site daily and note any changes in soil type. If type A or C soil is identified the excavation slope will be modified to account for this change.
- The area in question entails a polygon with maximum dimensions of 66 feet by 36 feet directly adjacent to and beneath production equipment as shown on Figure 2.
- Directly through the proposed excavation area are two engineered pipe racks containing multiple pipelines and electrical conduits measuring 6 feet wide by an undetermined length exceeding 10 times the width and 4 feet wide by an undetermined length exceeding 10 times the width. The pipe rack is supported by multiple C-channel footers.
- To the east of the proposed excavation area is an engineered lined containment containing multiple pipelines and large holding tanks. The lined containment measures 75 feet wide by 115 feet in length. The lined containment lays directly onto the pad surface. Eight large cylindrical tanks measuring 15.5 feet in diameter and 30 feet in height reside within the lined containment.
- On the western portion of the proposed excavation area are multiple electrical panels and controllers supported by two 3-inch square tubing extending into the subsurface at an unknown depth.
- To the north of the proposed excavation area is a staircase with a concrete base measuring 3 feet wide by 6 feet in length.

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:

- Stress to the soil below the pipe rack structures can be estimated by 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 maximum slope of 30 degrees and the beginning of the slope should be limited to beginning no less than 30 feet from the center of the 6-foot pipe rack footing and 20 feet from the center of the 4-foot pipe rack footing to prevent disruption of the stability of underlain soil.
- Stress to the soil below the lined containment structure can be estimated by the 2:1 Stress Distribution Model in the proposed excavation area in the areas adjacent to the lined containment. The beginning of the slope should be limited to beginning no less than 2 feet from the edge of the lined containment footing per above stated OSHA guidelines. No soil closer than

15.5 feet from the edge of the tanks should be disturbed based on Boussinesq stress isobars for circular footings.

- Due to the presence of production equipment and lined containment, excavation directly below any of the current lined containment area is not recommended and would require substantial deconstruction and/or additional support for equipment.
- Stress to the soil below the electrical panel structure can be estimated by the 2:1 Stress Distribution Model in the proposed excavation area. The beginning of the slope should be limited to beginning no less than 2 feet from the edge 4 inch square tubing footing per above stated OSHA guidelines.

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 both protects personnel health and equipment stability.

Sincerely,

Ensolum, LLC

Brian Sulzberger, PE
Senior Engineer

10/03/2025

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
New Mexico State Land Office

Appendices:

Figure 1	Site Map
Figure 2	Area of Interest Diagram
Appendix A	Engineering Models

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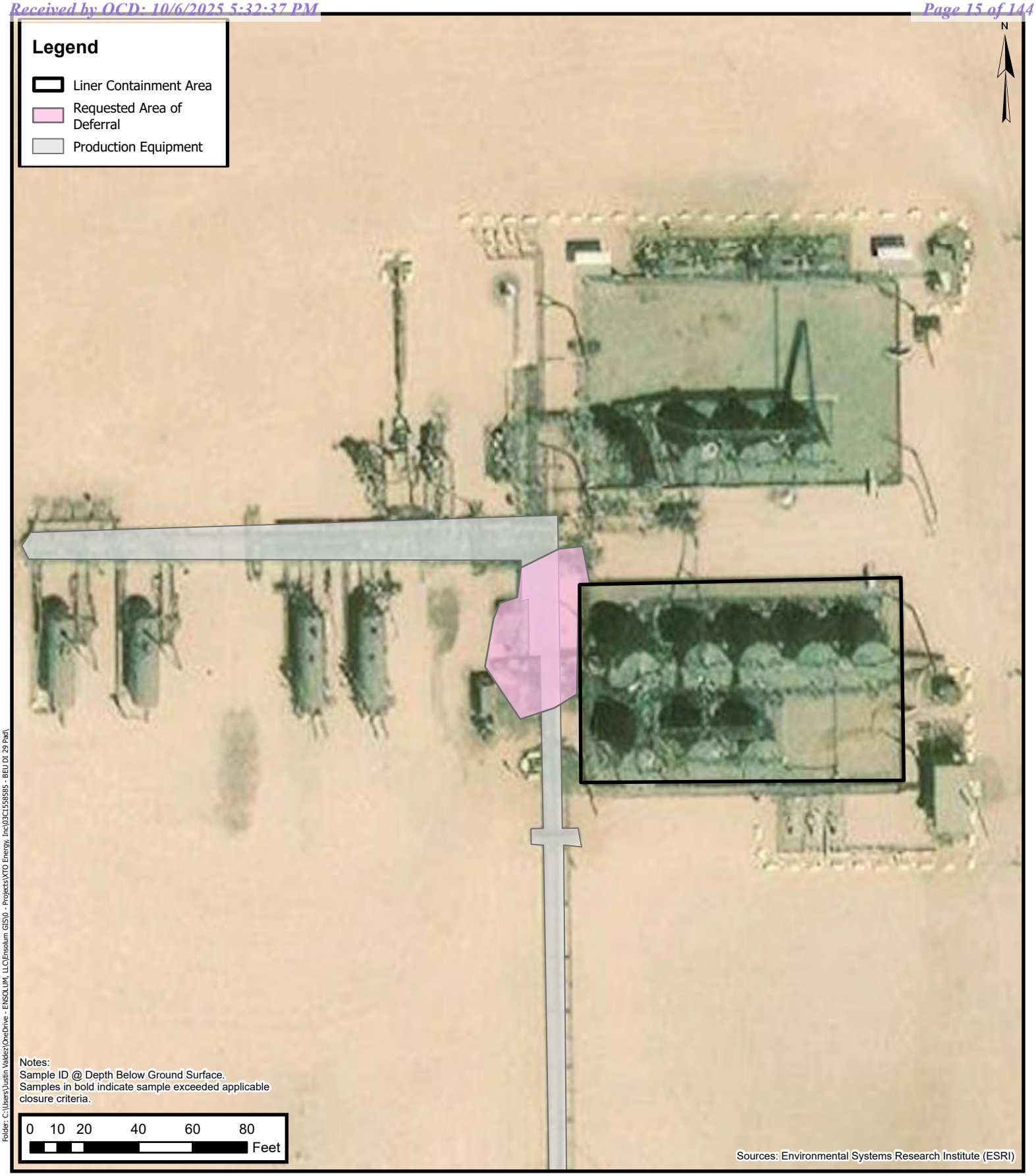
FIGURES



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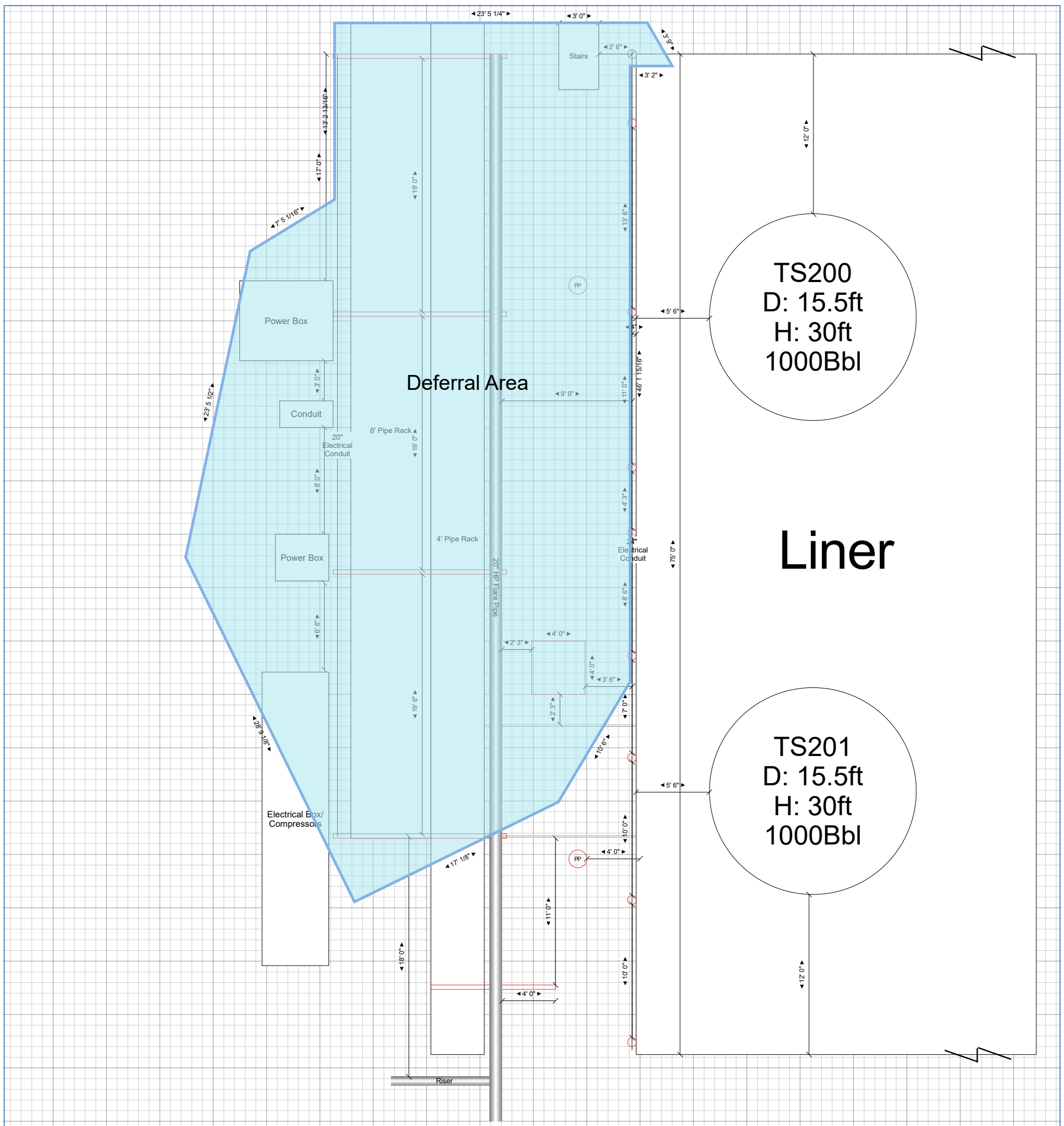
Environmental, Engineering and Hydrogeologic Consultants

Site Map

XTO Energy, Inc
BEU DI 29 Pad
Incident Number: nAPP2434828618
Unit D, Section 21, T 20S, R 32E
Lea County, New Mexico

FIGURE 1



Site:	BEU DI 29 Pad	Drawing: 801506	Project: 03C1558655	Drawn: Tracy Hillard	Notes:	Ensolum, LLC 3122 National Parks Hwy Carlsbad, NM 88220	
Title:	Engineering Site Schematic	Scale: 1/4":1'0"	Date: 07/9/2025	Rev: A			

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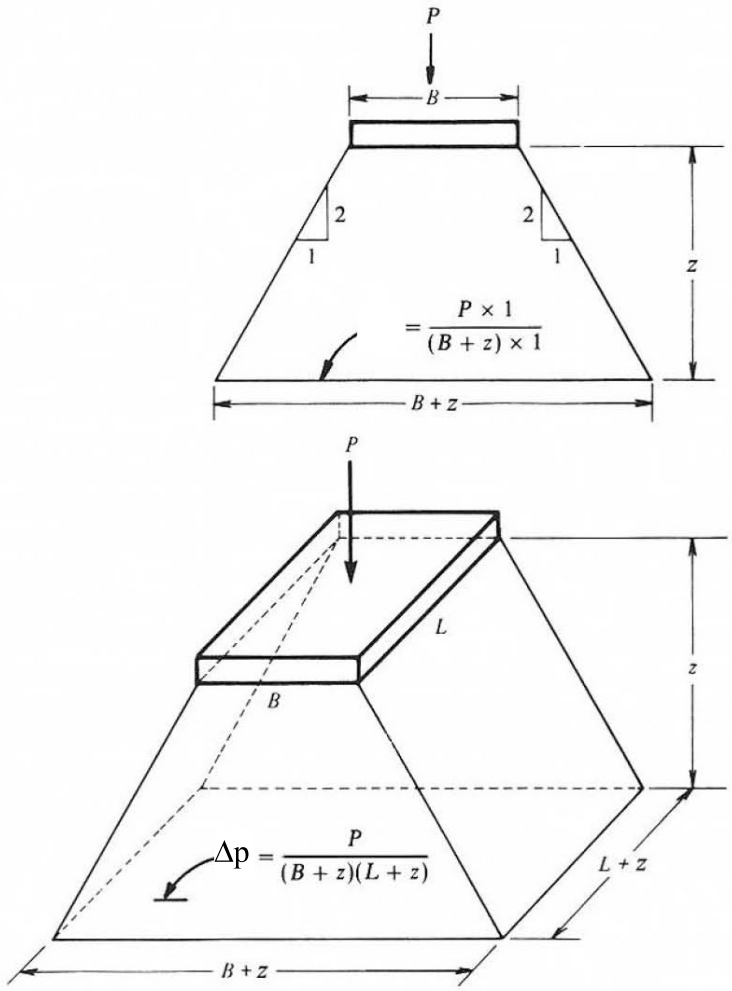
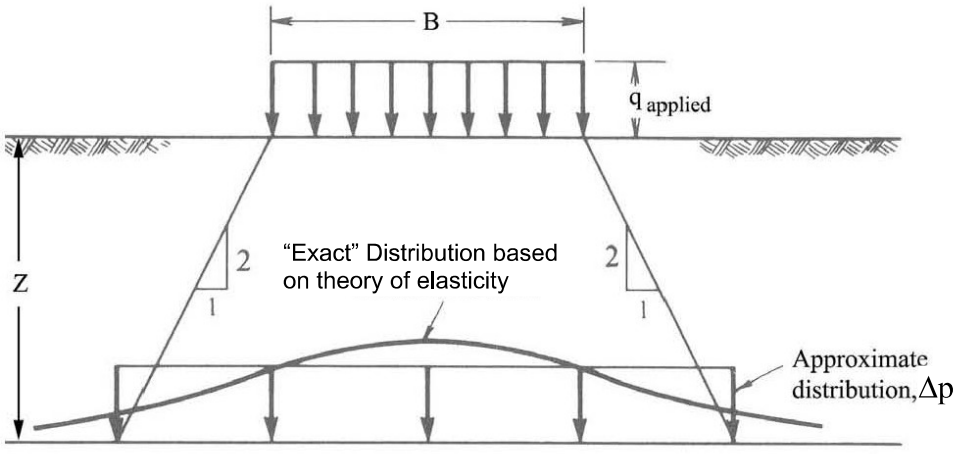
Appendix A
Engineering Models



(a)



(b)

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

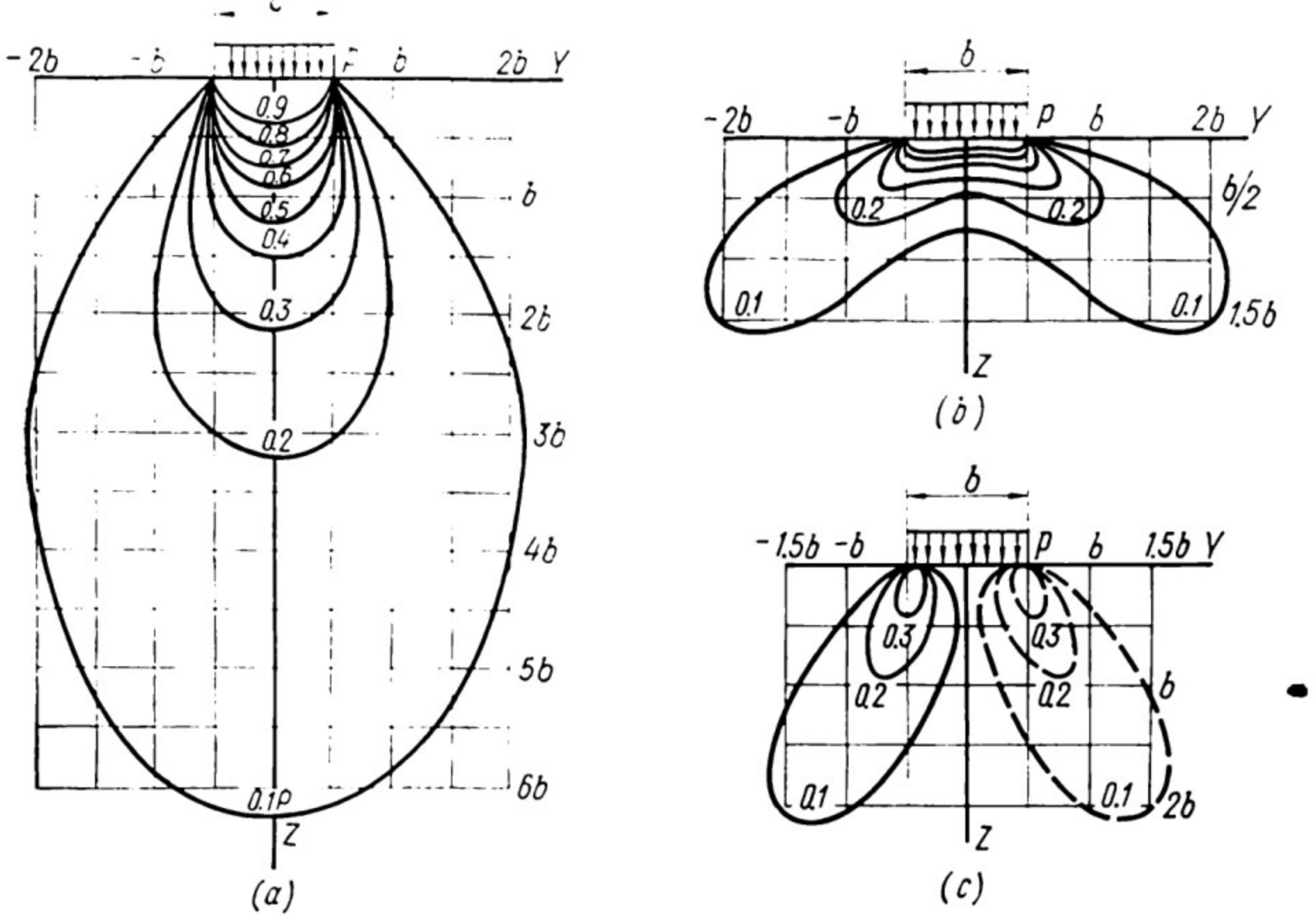
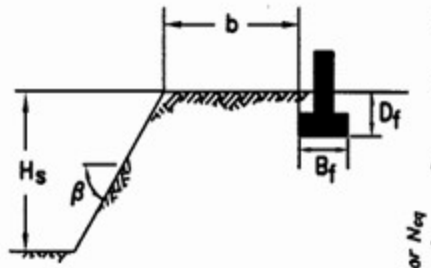
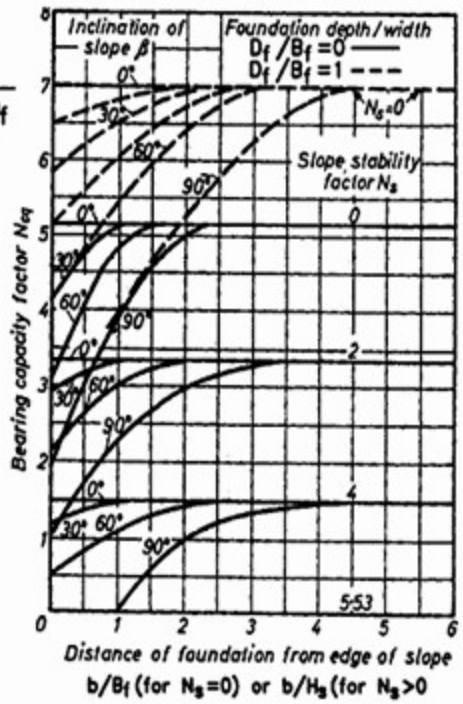


Fig. 49. Lines of equal stresses in a linearly deformable massif for the planar problem

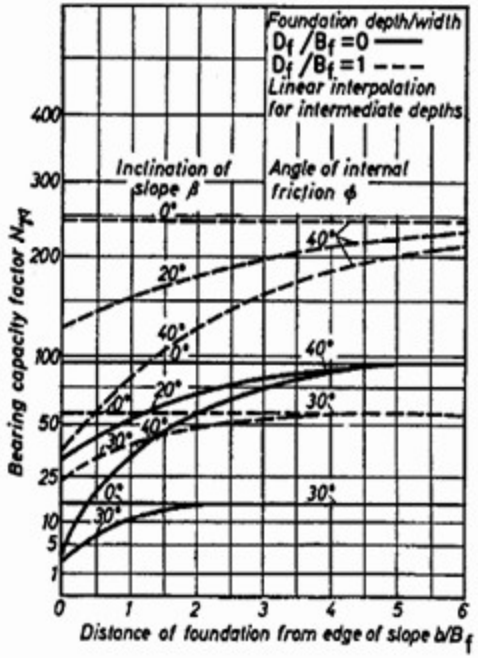
(*a*) isobars σ_z; (*b*) lateral pressure σ_y; (*c*) shears τ_{zx}



(d) Geometry



(e) Cohesive Soil ($\phi = 0$)



(f) Cohesionless Soil ($c = 0$)

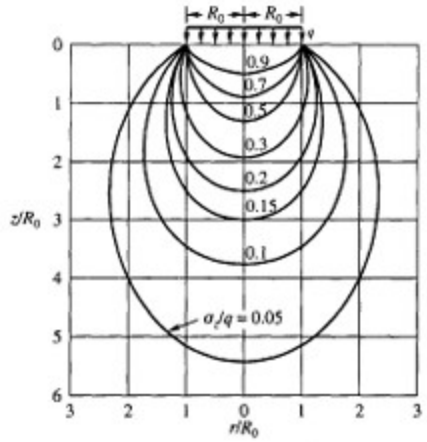


Figure 6.22 Pressure isobars based on Boussinesq equation for uniformly loaded circular footings

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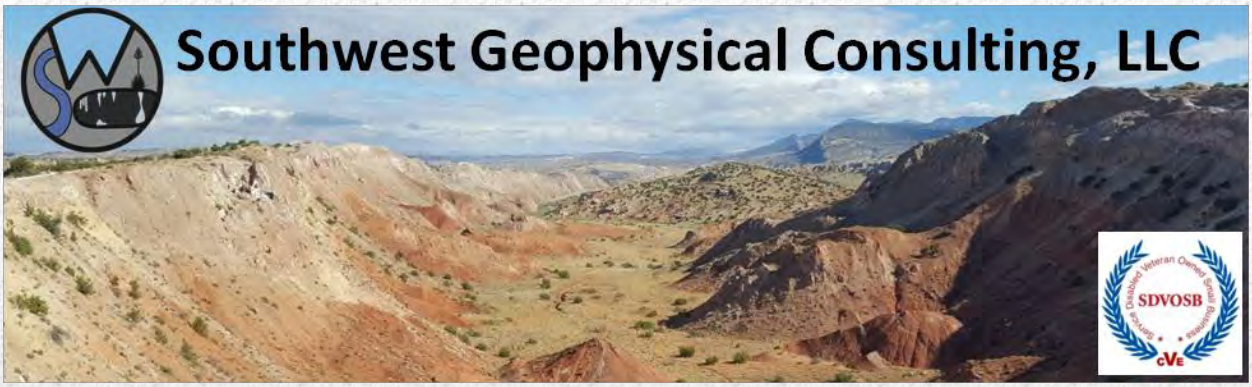
APPENDIX B

Environmental Karst Study Report



Environmental Karst Study Report
XTO Big Eddy Unit DI 29 Pad
Lea 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 20, 2025

ENS-019-20250609

Published by:
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MMXXV

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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 Big Eddy Unit DI 29 Pad project site (hereinafter termed “XB29”) centered at N 32.565007° W 103.778515°.

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 Big Eddy Unit DI 29 Pad project as provided by the client via e-mail (**XTO BEU DI 29 Pad.kmz**) on June 19, 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 XB29 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 XB29 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**).

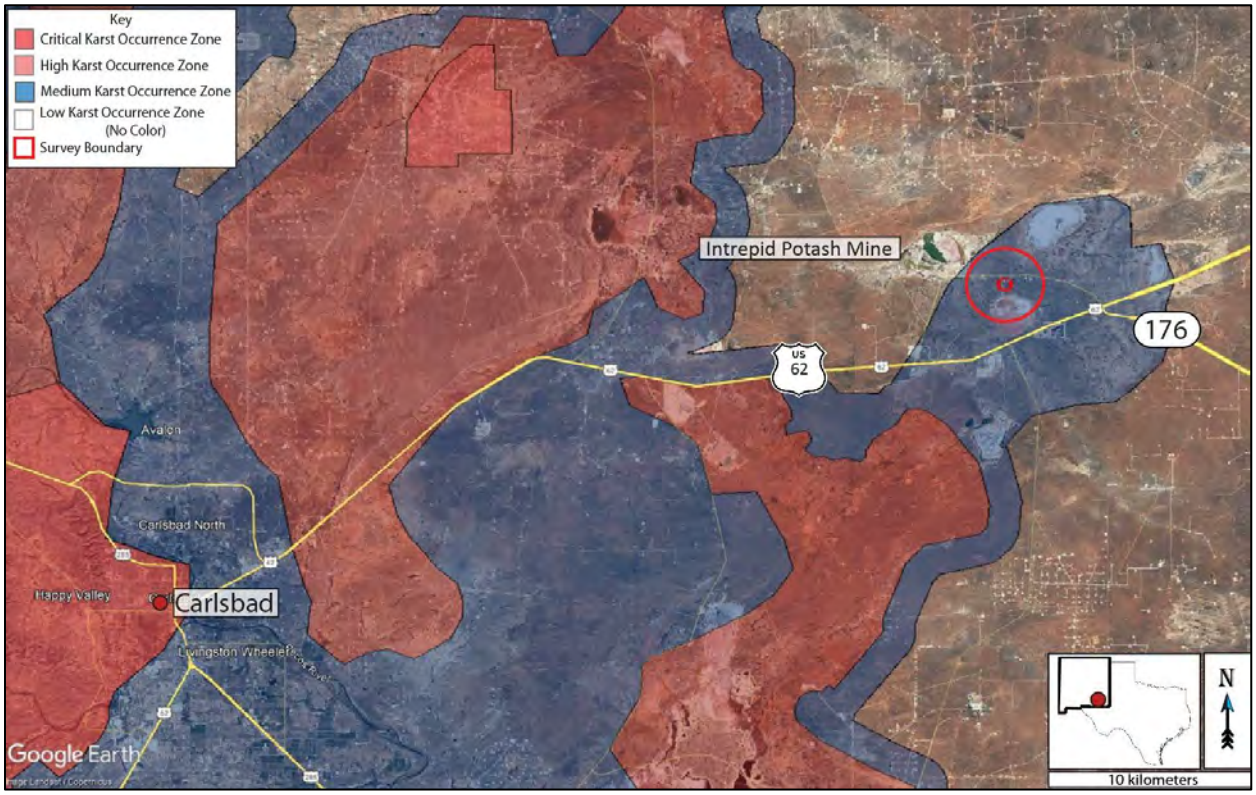

Figure 1: Karst occurrence zone overview. Background image credit: Google Earth. Image date: April 2, 2023. Image datum: WGS-84.

A medium karst occurrence zone is defined as an area in known soluble rock types that may have a shallow insoluble overburden. These areas may contain isolated karst features such as caves and sinkholes. Groundwater recharge may not be wholly dependent on karst features, but the karst features still provide the most rapid aquifer recharge in response to surface runoff[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 in Lea County, 45.3 kilometers (28.1 miles) east of Carlsbad, New Mexico, north of U.S. Highway 62 and south of County Road 243. The release site is located within the northwest ¼ section of section 21, NM T20S R32E[6] (**Figure 1** and **Figure 2**). The region has flat-lying terrain with karstification occurring in the gypsite 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**).

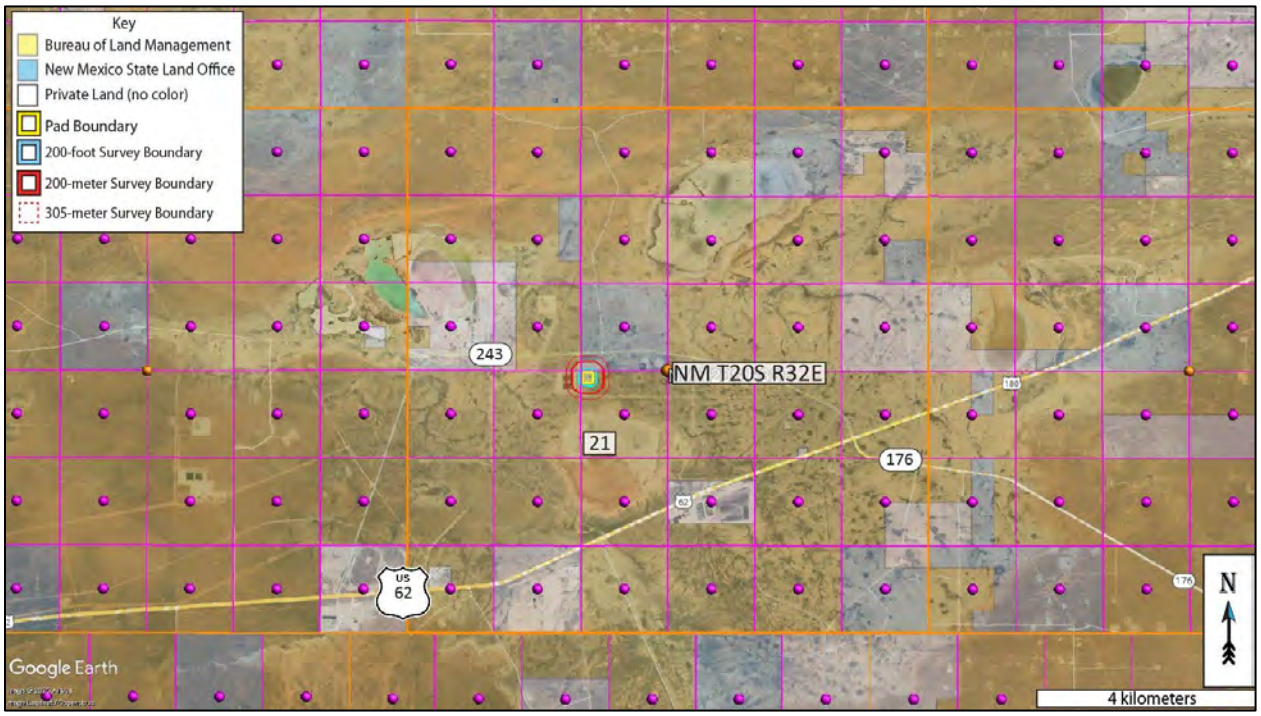

Figure 2: Land ownership and PLSS overview. Background image credit: Google Earth. Image date: April 2, 2023. Image datum: WGS-84.

2.2 Local Geology Summary

The site for the XB29 survey is located at an elevation of 1,073 meters (3,520 feet), ± 2 meters (6.6 feet), and is located within a region underlain by the Triassic Dockum Formation (Trd). The area is mantled by thin gypsiferous soils (gypsite), Quaternary lacustrine and playa lake deposits (Qpl), piedmont alluvial gravels (Qp), and eolian deposits (Qe)[11] up to 5 meters in depth (**Figure 3**).

The Dockum Formation (also called the Chinle Formation (Trc) on some maps) is a fossiliferous, variegated mudstone that can also include conglomerate, coarse sandstone, and shale lenses. The mudstones are generally dark reddish-brown to greyish-green and contain conspicuous cross-laminations[12]. The Dockum is not known to form karst features.

The survey area is covered by the easily accessible Geologic Map of New Mexico (2003) at 1:500,000 scale[13] and the Digital Geologic Map of New Mexico in ARC/INFO Format[11].

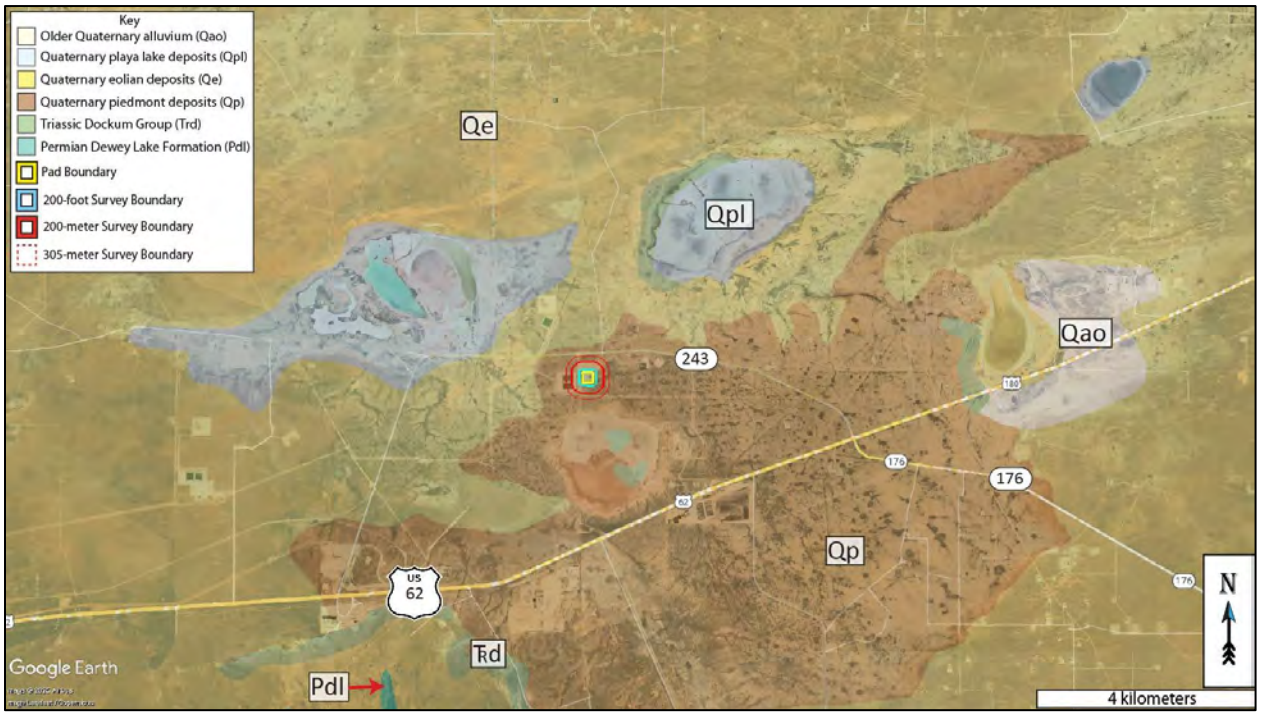

Figure 3: Geology overview. Geology map credit: The Digital Geologic Map of New Mexico in ARC/INFO Format. Background image credit: Google Earth. Image date: April 2, 2023. Image datum: WGS-84.

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 April 2, 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 August 1, 2025[14]; the Clayton Basin, NM, 1:62,500 quad, 1942, 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[15].

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.

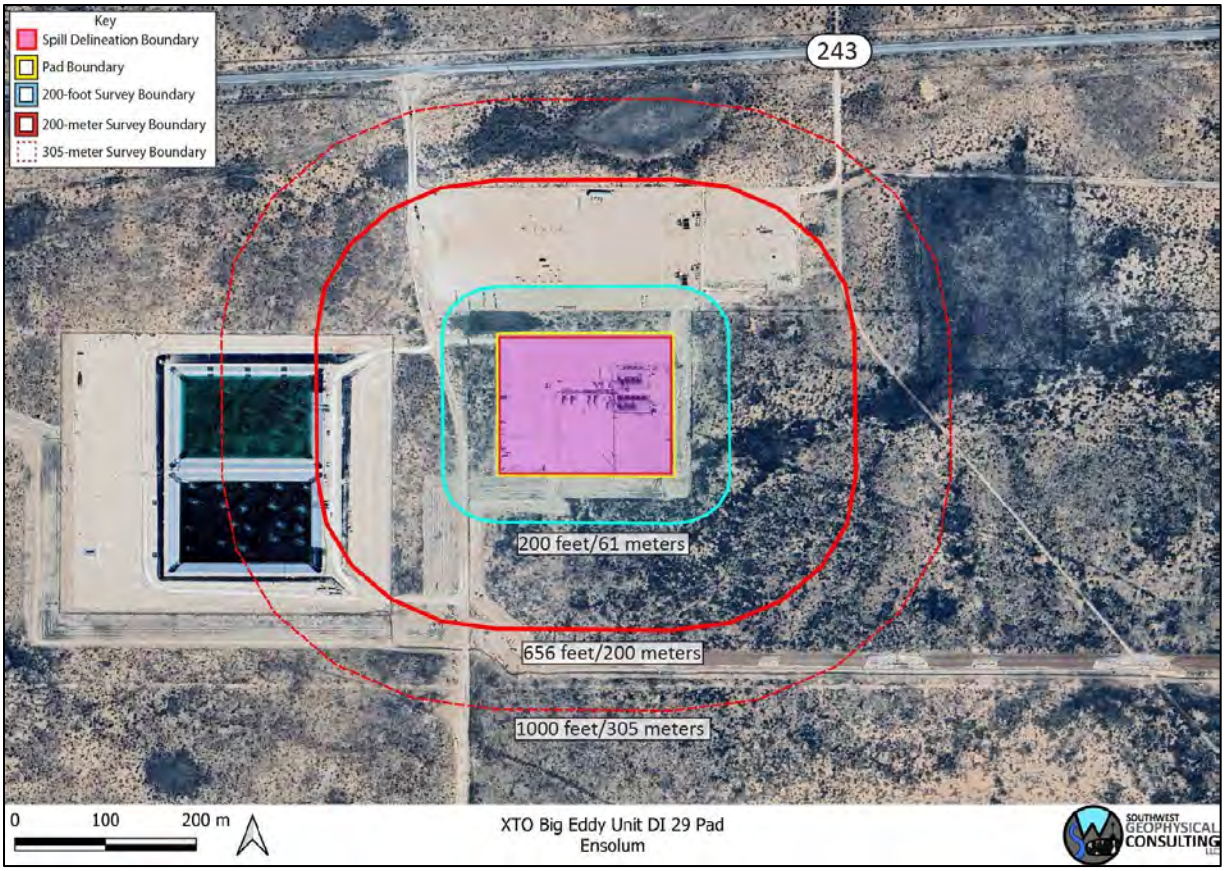

Figure 4: Surface survey overview. Background image credit: Google Earth. Image date: April 2, 2023. Datum: WGS-84.

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 Kat Knight of Southwest Geophysical Consulting on July 24, 2025.

2.3.2 Geophysical Survey

For this survey, an ABEM Terrameter LS 2 and a 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 XB2901 was laid out west to east, lines XB2902 and XB2903 were laid out south to north. Line XB2902 consisted of 42 electrodes at 5-meter spacing resulting in a 205-meter-long array. Lines XB2901 and XB2903 consisted of 56 electrodes at 5-meter spacing resulting in 275-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 2.5 to 3.0 meters (8.2 to 9.8 feet). The 42-electrode configuration provided a depth of investigation of 41 meters (135 feet) with a resolution of 2.5 to 3.0 meters (8.2 to 9.8 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.

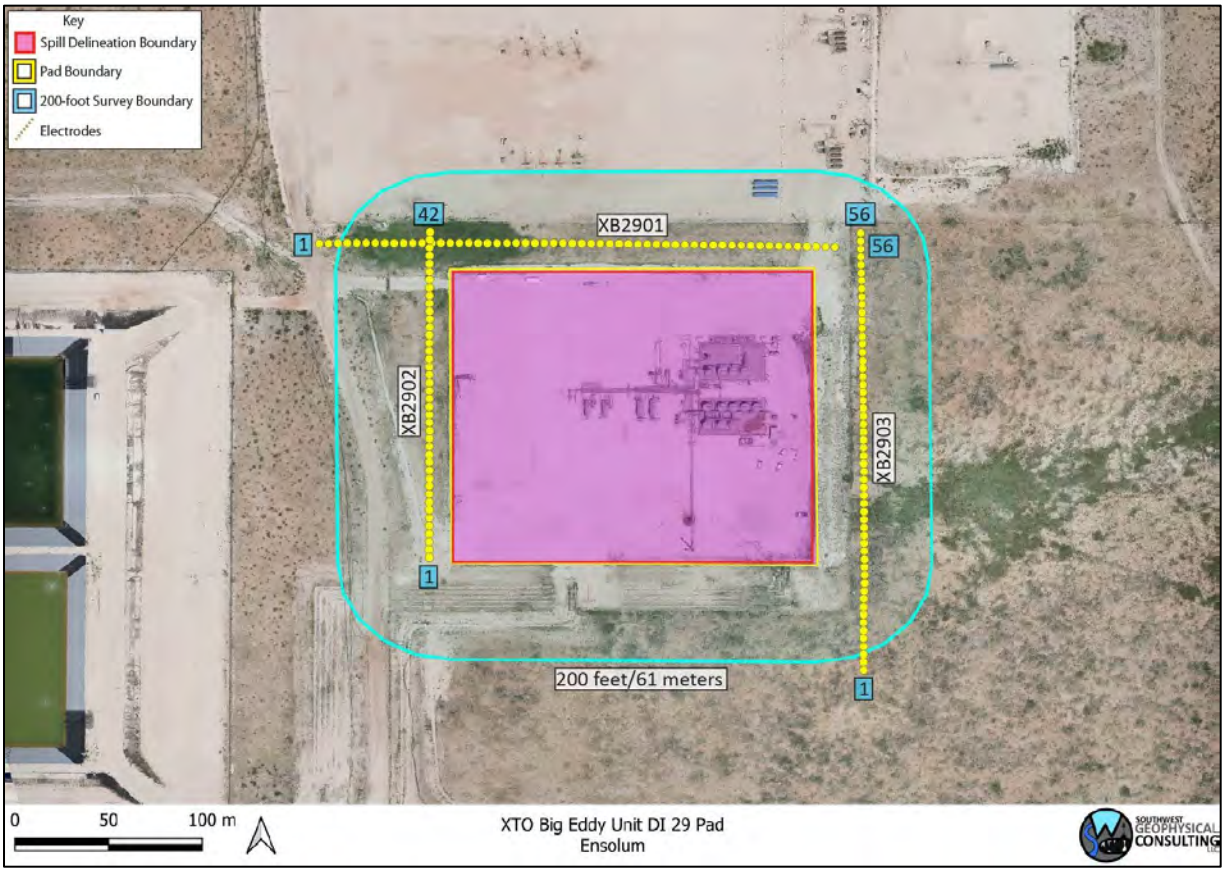

Figure 5: Geophysical survey overview. XB2902 was conducted with 42 electrodes at 5-meter spacing, and XB2901 and XB2903 were conducted with 56 electrodes at 5-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: April 2, 2023. Image datum: WGS-84.

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 XB29_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 XB29 _ERI_Points.xlsx and ENS-019-20250609_XB29_Data_Files.kmz.

File Name:	Completed By:	Date:
XB2901.kmz	Steven Kesler – Field Geologist Kat Knight – Field Geologist Michael Jones – Field Geologist	7/16/2025
XB2902.kmz		
XB2903.kmz		

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 kΩ-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.

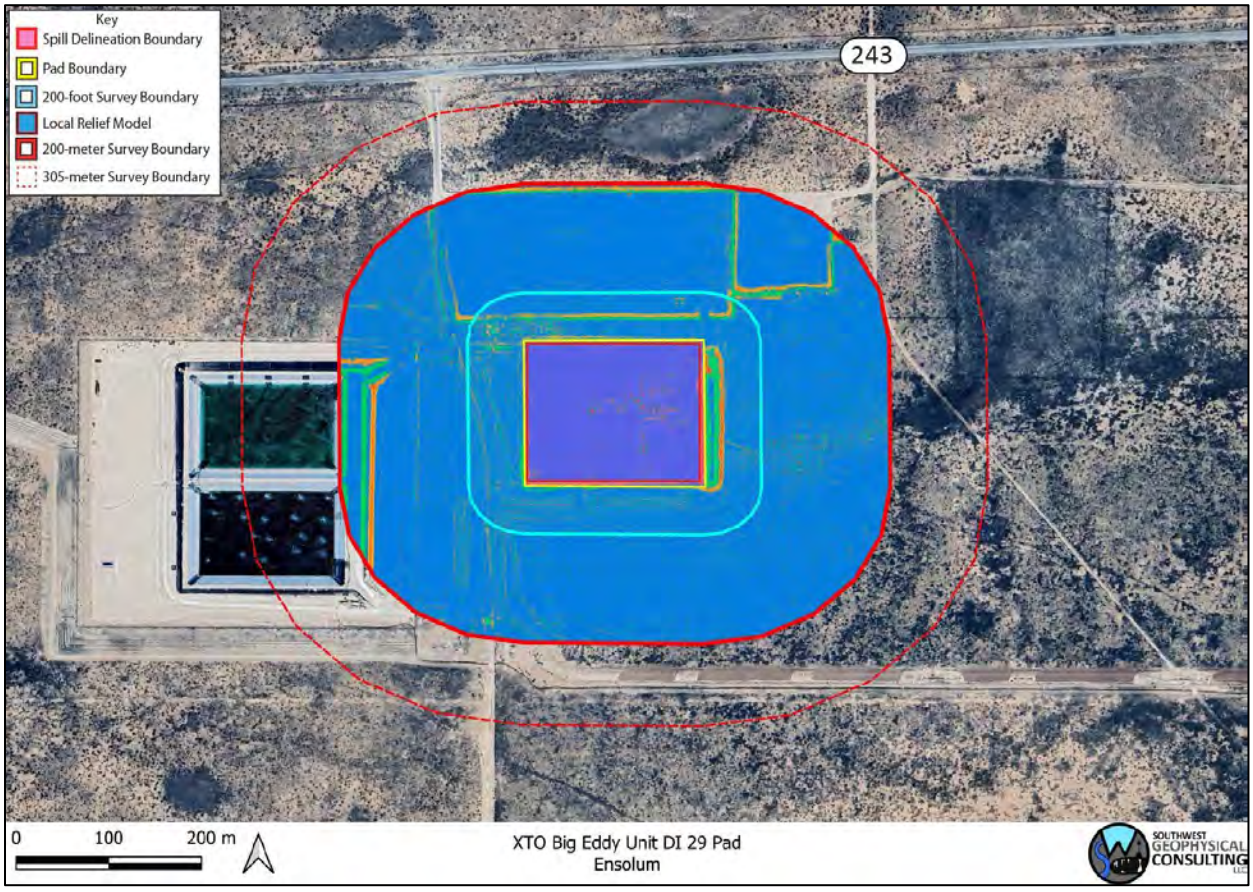

Figure 6: Surface karst survey results. Background image credit: Google Earth. Image date: April 2, 2023. Image datum: WGS-84.

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 stable geologic system with resistivities between 1.6 and 358 Ohm-m (**Figure 7**). **No anomalies interpreted as underground voids were found in the XB29 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.

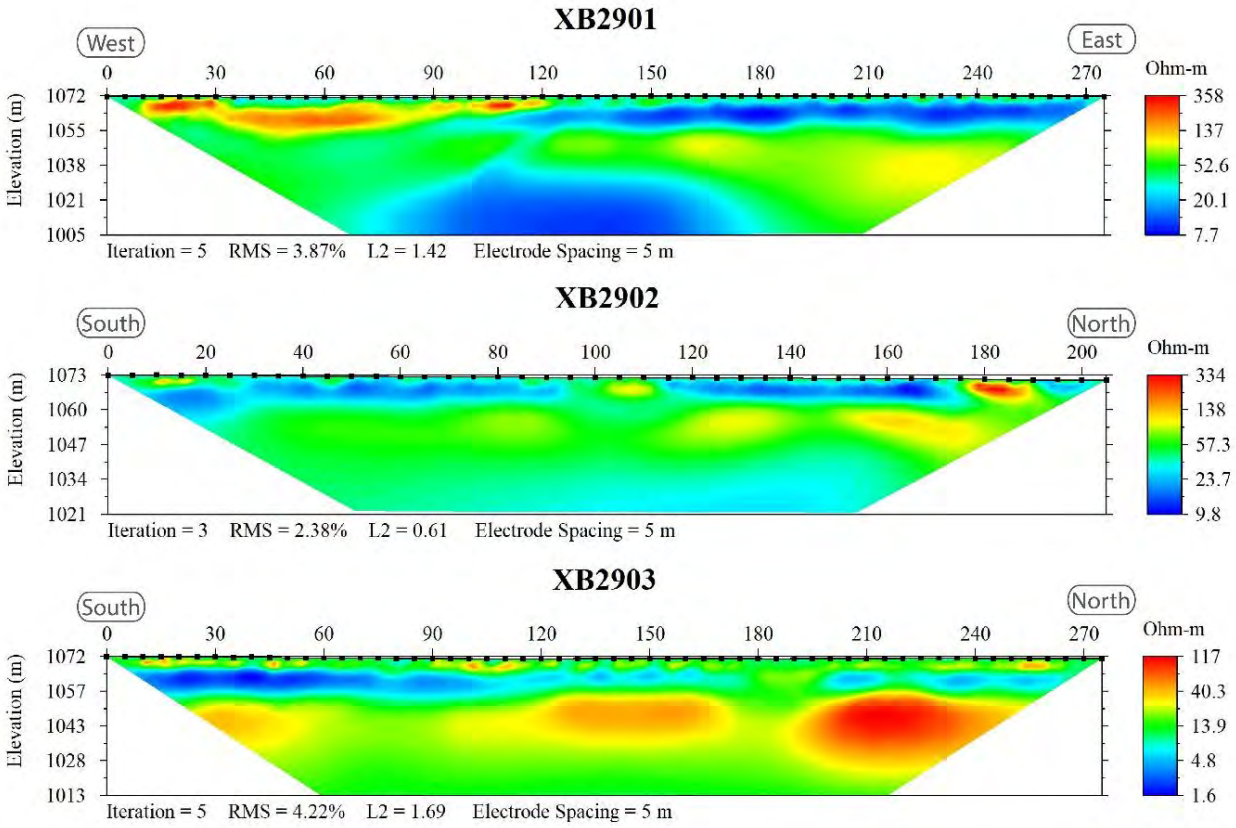

Figure 7: 2D inverted resistivity sections. Reds and oranges indicate higher resistivity values. Yellows and greens are medium-resistivity values. Blues are low-resistivity values. Please note that the color scale is relative.

4.0 DISCUSSION

No surface karst exists and no anomalies interpreted as large near-surface voids are located within the study area. Due to the resolution limit of the survey, small voids at or near the resolution limit (2.5 – 3.0 meters) cannot be ruled out. Moderately high resistivity areas located less than 20 meters beneath the surface are interpreted as dry caliche or a more resistant sandstone; 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 sandstone of the Dockum Formation. Very low-resistivity areas between 1.6 – 10 Ohm-m may either represent fluid from the brine release, surface-to-subsurface hydrologic pathways, or a layer of either clays and shale lenses or moist or saturated layers within the Dockum Formation (**Figure 7**).

Resistivity of the survey area drops below 50 Ω-m at approximately 13 - 17 meters (42.7 – 55.8 feet) depth and generally increases to greater than 100 Ω-m below these depths throughout the survey area, indicating a change from saturated caliche/gypsite soils to the bedrock of the Dockum Formation.

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.

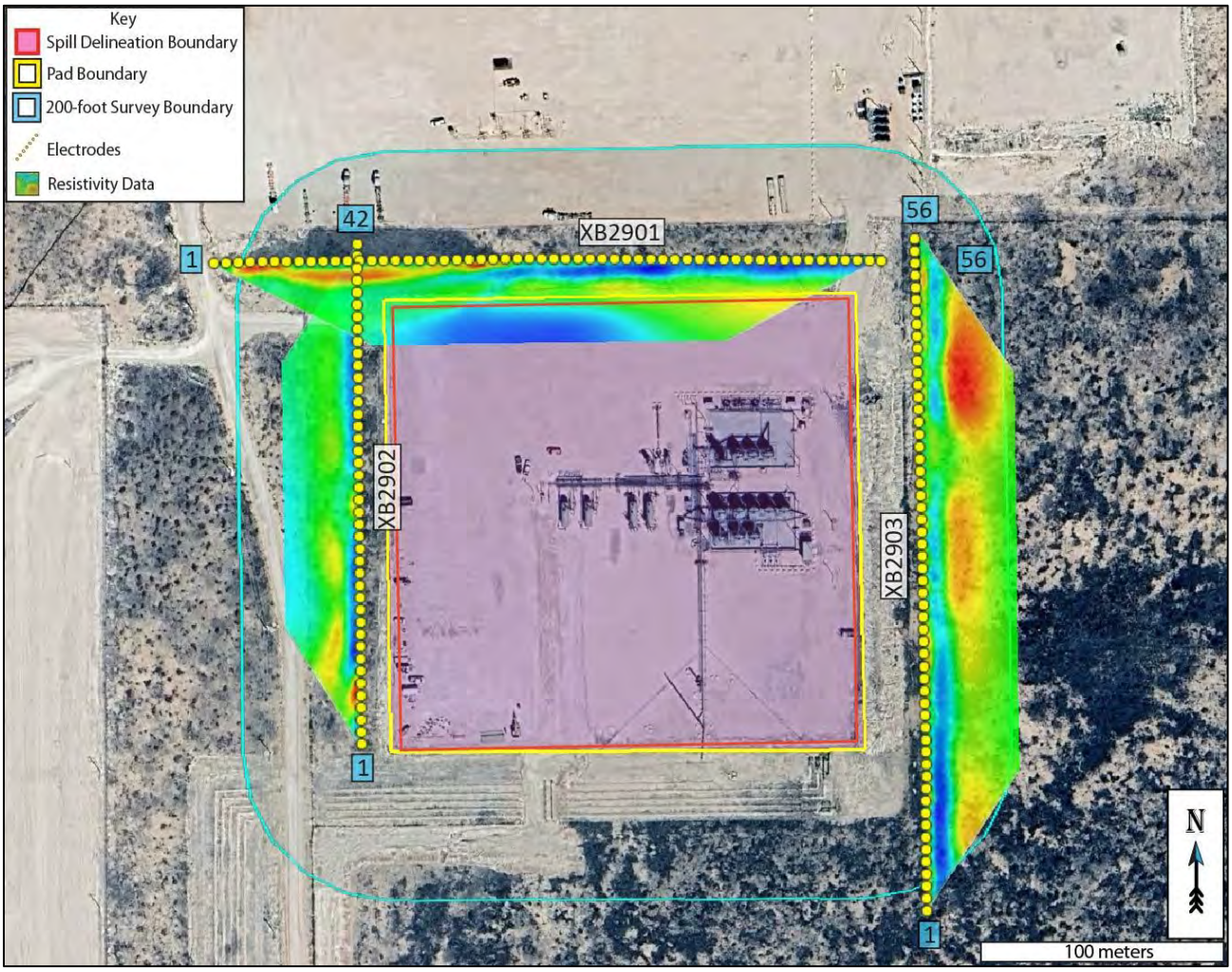

Figure 8: Data overlay. Colored trapezoids are 2D inverted resistivity lines. Background image credit: Google Earth. Image date: April 2, 2023.

5.0 SUMMARY

- **The XB29 survey contains no surface karst features within 200 feet (61 meters) of the spill delineation boundary.**
- **The XB29 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 Ω-m.
paleokarst	Previously formed karst features that have been filled in by erosion and/or deposition of minerals.
Pat	Permian Artesia Group
Pc	Permian Capitan Formation
Pcs	Permian Castile Formation

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

9.0 ATTESTATION

David D. Decker, PhD, PG, CPG
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CERTIFICATE OF AUTHOR

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

- I am currently employed as a consulting geologist in the specialty of caves and karst with an office address of 5117 Fairfax Dr. NW, Albuquerque, NM, USA, 87114.
- I graduated with a Master of Science in Applied Physics with a specialization in Sensor Systems from the Naval Post Graduate School in Monterey, California, in 2003, and a Doctor of Philosophy in Earth and Planetary Sciences from the University of New Mexico, Albuquerque, New Mexico, in 2018.
- I am a Licensed Professional Geologist in the State of Texas, USA (PG-15242) and have been since 2021. I am a Certified Professional Geologist through the American Institute of Professional Geologists (CPG-12123) and have been since 2021.
- I have been employed as a geologist continuously since 2016. I was previously employed as a Fire Controlman, Naval Flight Officer, and Aerospace Engineering Duty Officer in the U.S. Navy and operated, maintained, and installed various sensor systems including magnetic, electromagnetic, radar, communications, and acoustic systems in various capacities from 1986 through 2010.
- I have been involved in various aspects of cave and karst studies continuously since 1985, including exploration, mapping, and scientific studies.
- I have read the definition of “qualified karst professional” set out in the ASTM Standard Practice for Preliminary Karst Terrain Assessment for Site Development (ASTM E-1527). I meet the definition of “qualified professional” for the purposes of this standard.
- I am responsible for the content, compilation, and editing of all sections of report number ENS-019-20250609 entitled, “Environmental Karst Study Report, XTO Big Eddy Unit DI 29 Pad, Lea 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 27, 2025.

David D. Decker
PhD, CPG-12123

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

Sample Name: BH01	Date: 02/26/2025
Site Name: BEU DI 29 Pad	
Incident Number: nAPP2434828618	
Job Number: 03C1558585	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Evan Roe / Method: Hand Auger
Coordinates: 32.565023, -103.778007	Hole Diameter: 3.5 inch / Total Depth: 1-foot

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% Correction Factor for chloride is included

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<162	0.6	N	BH01	0.5		CCHE	(0-1') CALICHE, light brown and tan, fine grained, uniform, no staining, no odor
Dry	<162	0.1	N	BH01	1	1		

Total Depth @ 1-foot

ENSOLUM

Sample Name: BH02	Date: 02/26/2025
Site Name: BEU DI 29 Pad	
Incident Number: nAPP2434828618	
Job Number: 03C1558585	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Evan Roe / Method: Hand Auger
Coordinates: 32.564851, -103.778187	Hole Diameter: 3.5 inch / Total Depth: 1-foot

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% Correction Factor for chloride is included

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	196	0.5	N	BH02	0.5		SP-SM	(0-0.5') SILTY SAND, brown, fine, uniform, trace caliche, no odor
Dry	162	0.0	N	BH02	1	1	CCHE	(0.5-1') CALICHE , tan, fine, uniform, no odor
Total Depth @ 1-foot								

ENSOLUM

	Sample Name: BH03	Date: 10/02/2025
	Site Name: BEU DI 29 Pad	
	Incident Number: nAPP2434828618	
	Job Number: 03C1558655	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: ER	Method: Hand Auger
Coordinates: 32.5649327, -103.7781413	Hole Diameter: 3.5 Inch	Total Depth: 2-foot

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	229	1.4	Y	BH03	0.5		SP-SM	(0-0.5) SILTY SAND, brown, fine, uniform, trace caliche, faint odor, staining.
D	196	0.9	N			1	CCHE	(0.5-2) CALICHE, light brown and tan, fine grained w/ pebble-sized inclusions, no stain, no odor.
D	<150	0.1	N	BH03	2	2	CCHE	

Total Depth @ 2'

ENSOLUM

APPENDIX D

Photographic Log

Photographic Log
XTO Energy, Inc.
BEU DI 29 Pad
nAPP2434828618

Photograph 1 Date: 10/02/2025
View: North
Description: Delineation activities near BH03

Photograph 2 Date: February 23, 2024
View: South
Description: Delineation activities near BH03

ENSOLUM

APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

March 12, 2025

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: BEU DI 29 PCA

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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH 02 .5	H251170-01	Soil	26-Feb-25 10:25	27-Feb-25 14:00
BH 02 1	H251170-02	Soil	26-Feb-25 10:39	27-Feb-25 14:00
BH 01 .5	H251170-03	Soil	26-Feb-25 12:25	27-Feb-25 14:00
BH 01 1	H251170-04	Soil	26-Feb-25 12:32	27-Feb-25 14:00
CS 01 .5	H251170-05	Soil	26-Feb-25 14:12	27-Feb-25 14:00
CS 02 .5	H251170-06	Soil	26-Feb-25 14:30	27-Feb-25 14:00

03/12/25 - Client changed the sample ID on -01 and -02 (see COC). This is the revised report and will replace the one sent on 02/28/25.

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

BH 02 .5

H251170-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**160**		16.0	mg/kg	4	5022825	HM	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*107 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*99.4 %*	*48.2-134*		*5022743*	MS	*27-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*104 %*	*49.1-148*		*5022743*	MS	*27-Feb-25*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

BH 02 1

H251170-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**160**		16.0	mg/kg	4	5022825	HM	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*108 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*107 %*	*48.2-134*		*5022743*	MS	*27-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*112 %*	*49.1-148*		*5022743*	MS	*27-Feb-25*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

BH 01 .5

H251170-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**112**		16.0	mg/kg	4	5022825	HM	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*108 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	27-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*98.2 %*	*48.2-134*		*5022743*	MS	*27-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*101 %*	*49.1-148*		*5022743*	MS	*27-Feb-25*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

BH 01 1

H251170-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**96.0**		16.0	mg/kg	4	5022825	HM	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*109 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
DRO >C10-C28*	**13.5**		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*95.2 %*	*48.2-134*		*5022743*	MS	*28-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*98.6 %*	*49.1-148*		*5022743*	MS	*28-Feb-25*	*8015B*	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

CS 01 .5

H251170-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**80.0**		16.0	mg/kg	4	5022810	AC	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*107 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
DRO >C10-C28*	**22.8**		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*99.6 %*	*48.2-134*		*5022743*	MS	*28-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*102 %*	*49.1-148*		*5022743*	MS	*28-Feb-25*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

CS 02 .5

H251170-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**64.0**		16.0	mg/kg	4	5022810	AC	28-Feb-25	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5022711	JH	27-Feb-25	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*107 %*	*71.5-134*		*5022711*	JH	*27-Feb-25*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5022743	MS	28-Feb-25	8015B	
Surrogate: 1-Chlorooctane			*105 %*	*48.2-134*		*5022743*	MS	*28-Feb-25*	*8015B*	
Surrogate: 1-Chlorooctadecane			*108 %*	*49.1-148*		*5022743*	MS	*28-Feb-25*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5022810 - 1:4 DI Water										
Blank (5022810-BLK1)				Prepared & Analyzed: 28-Feb-25						
Chloride	ND	16.0	mg/kg							
LCS (5022810-BS1)				Prepared & Analyzed: 28-Feb-25						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (5022810-BSD1)				Prepared & Analyzed: 28-Feb-25						
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	
Batch 5022825 - 1:4 DI Water										
Blank (5022825-BLK1)				Prepared & Analyzed: 28-Feb-25						
Chloride	ND	16.0	mg/kg							
LCS (5022825-BS1)				Prepared & Analyzed: 28-Feb-25						
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (5022825-BSD1)				Prepared & Analyzed: 28-Feb-25						
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

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 Limit	Notes
Batch 5022711 - Volatiles										
Blank (5022711-BLK1)				Prepared & Analyzed: 27-Feb-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)	*0.0540*		mg/kg	*0.0500*		*108*	*71.5-134*			
LCS (5022711-BS1)				Prepared & Analyzed: 27-Feb-25						
Benzene	1.94	0.050	mg/kg	2.00		97.0	82.8-130			
Toluene	2.01	0.050	mg/kg	2.00		100	86-128			
Ethylbenzene	2.01	0.050	mg/kg	2.00		100	85.9-128			
m,p-Xylene	4.19	0.100	mg/kg	4.00		105	89-129			
o-Xylene	1.97	0.050	mg/kg	2.00		98.3	86.1-125			
Total Xylenes	6.16	0.150	mg/kg	6.00		103	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0520*		mg/kg	*0.0500*		*104*	*71.5-134*			
LCS Dup (5022711-BSD1)				Prepared & Analyzed: 27-Feb-25						
Benzene	1.98	0.050	mg/kg	2.00		99.2	82.8-130	2.25	15.8	
Toluene	2.03	0.050	mg/kg	2.00		102	86-128	1.32	15.9	
Ethylbenzene	2.02	0.050	mg/kg	2.00		101	85.9-128	0.732	16	
m,p-Xylene	4.24	0.100	mg/kg	4.00		106	89-129	1.16	16.2	
o-Xylene	1.99	0.050	mg/kg	2.00		99.4	86.1-125	1.10	16.7	
Total Xylenes	6.23	0.150	mg/kg	6.00		104	88.2-128	1.14	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0501*		mg/kg	*0.0500*		*100*	*71.5-134*			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: BEU DI 29 PCA Project Number: 03C1558585 Project Manager: TRACY HILLARD Fax To:	Reported: 12-Mar-25 08:39

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5022743 - General Prep - Organics										
Blank (5022743-BLK1)				Prepared & Analyzed: 27-Feb-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	*57.2*		mg/kg	*50.0*		*114*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*58.8*		mg/kg	*50.0*		*118*	*49.1-148*			
LCS (5022743-BS1)				Prepared & Analyzed: 27-Feb-25						
GRO C6-C10	199	10.0	mg/kg	200		99.5	81.5-123			
DRO >C10-C28	196	10.0	mg/kg	200		98.1	77.7-122			
Total TPH C6-C28	395	10.0	mg/kg	400		98.8	80.9-121			
Surrogate: 1-Chlorooctane	*63.0*		mg/kg	*50.0*		*126*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*66.8*		mg/kg	*50.0*		*134*	*49.1-148*			
LCS Dup (5022743-BSD1)				Prepared & Analyzed: 27-Feb-25						
GRO C6-C10	198	10.0	mg/kg	200		99.1	81.5-123	0.357	13	
DRO >C10-C28	193	10.0	mg/kg	200		96.5	77.7-122	1.71	15.6	
Total TPH C6-C28	391	10.0	mg/kg	400		97.8	80.9-121	1.03	18.5	
Surrogate: 1-Chlorooctane	*58.5*		mg/kg	*50.0*		*117*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*61.4*		mg/kg	*50.0*		*123*	*49.1-148*			

Cardinal Laboratories *=Accredited Analyte

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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**
Project Manager: Tracy Hillard	**P.O. #:**
Address: 601 N Marienfeld Street, Suite 400	**Company:** XTO Energy, Inc
City: Midland **State:** TX **Zip:** 79701	**Attn:** Colton Brown
Phone #: 575-937-3906 **Fax #:**	**Address:** 3104 E Greene St
Project #: 03C1558585 **Project Owner:** XTO Energy	**City:** Carlsbad
Project Name: BEU D1 29 PCA	**State:** NM **Zip:** 88220
Project Location: 32.56479, -103.77748	**Phone #:**
Sampler Name: Evan Rea	**Fax #:**

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH 8015	BTEX 8021	Chloride 4500
H251170																		
1	BHCB2 *	.5	G	1			✓					✓		2/26/25	1025	✓	✓	✓
2	BHCB2 *	1	G	1			✓					✓		2/26/25	1039	✓	✓	✓
3	BHC1	.5	G	1			✓					✓		2/26/25	1225	✓	✓	✓
4	BHC1	1	G	1			✓					✓		2/26/25	1232	✓	✓	✓
5	CSC1	.5	C	1			✓					✓		2/26/25	[illegible]	✓	✓	✓
6	CSC2	.5	C	1			✓					✓		2/26/25	1430	✓	✓	✓

Relinquished By: Evan Rea	**Date:** 2-27-25 **Time:** 1400	**Received By:** [signature]	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
Relinquished By:	**Date:** **Time:**	**Received By:**	**All Results are emailed. Please provide Email address:** BBelill@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com
			REMARKS: * Customer requested ID Changes. TO 3/7/25
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 31 Corrected Temp. °C 34	**Sample Condition** Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	**CHECKED BY: (Initials)** TO
			Turnaround Time: Standard ☐ Rush ☑ #140 24hr 3/7/25 **Thermometer ID** #113 **Correction Factor** -0.5°C +0.3
			Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No **Observed Temp. °C** **Corrected Temp. °C**

FORM-006 R 3.2 10/07/21

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tracy Hillard
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 10/6/2025 11:07:55 AM

JOB DESCRIPTION

BEU DI 29 Pad
03C1558585

JOB NUMBER

890-8906-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

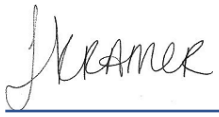
Eurofins Carlsbad

Job Notes

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

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

Authorization



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10/6/2025 11:07:55 AM

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

Client: Ensolum
Project/Site: BEU DI 29 Pad

Laboratory Job ID: 890-8906-1
SDG: 03C1558585

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project: BEU DI 29 Pad

Job ID: 890-8906-1

Job ID: 890-8906-1 Eurofins Carlsbad

Job Narrative
890-8906-1

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

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

Receipt
The samples were received on 10/2/2025 2:59 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH03 (890-8906-1) and BH03 (890-8906-2).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-120457 and analytical batch 880-120472 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Diesel Range Organics
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-120404 and analytical batch 880-120510 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

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

HPLC/IC
Method 300_ORGFM_28D - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-120489 and analytical batch 880-120491 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Client Sample ID: BH03

Date Collected: 10/02/25 09:06
Date Received: 10/02/25 14:59
Sample Depth: 0.5

Lab Sample ID: 890-8906-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:58	1
Toluene	<0.00200	U F1	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/03/25 11:48	10/03/25 17:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:58	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/03/25 11:48	10/03/25 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*10/03/25 11:48*	*10/03/25 17:58*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/03/25 11:48*	*10/03/25 17:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/03/25 17:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/25 11:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/03/25 08:21	10/06/25 11:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		10/03/25 08:21	10/06/25 11:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/03/25 08:21	10/06/25 11:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*10/03/25 08:21*	*10/06/25 11:23*	*1*
o-Terphenyl	*86*		*70 - 130*	*10/03/25 08:21*	*10/06/25 11:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**386**		10.0		mg/Kg			10/04/25 18:56	1

Client Sample ID: BH03

Date Collected: 10/02/25 09:30
Date Received: 10/02/25 14:59
Sample Depth: 2

Lab Sample ID: 890-8906-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/03/25 11:48	10/03/25 18:19	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/03/25 11:48	10/03/25 18:19	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/03/25 11:48	10/03/25 18:19	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/03/25 11:48	10/03/25 18:19	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/03/25 11:48	10/03/25 18:19	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/03/25 11:48	10/03/25 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/03/25 11:48*	*10/03/25 18:19*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Client Sample ID: BH03

Date Collected: 10/02/25 09:30
Date Received: 10/02/25 14:59
Sample Depth: 2

Lab Sample ID: 890-8906-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*	*10/03/25 11:48*	*10/03/25 18:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/03/25 18:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/06/25 11:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/03/25 08:21	10/06/25 11:38	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8		mg/Kg		10/03/25 08:21	10/06/25 11:38	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/03/25 08:21	10/06/25 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/03/25 08:21*	*10/06/25 11:38*	*1*
o-Terphenyl	*83*		*70 - 130*	*10/03/25 08:21*	*10/06/25 11:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**214**		10.1		mg/Kg			10/04/25 19:14	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-8906-1	BH03	122	104
890-8906-1 MS	BH03	93	91
890-8906-1 MSD	BH03	106	93
890-8906-2	BH03	90	121
LCS 880-120457/1-A	Lab Control Sample	89	105
LCSD 880-120457/2-A	Lab Control Sample Dup	90	92
MB 880-120457/5-A	Method Blank	103	85

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-63341-A-57-D MS	Matrix Spike	98	90
880-63341-A-57-E MSD	Matrix Spike Duplicate	80	89
890-8906-1	BH03	85	86
890-8906-2	BH03	82	83
LCS 880-120404/2-A	Lab Control Sample	93	87
LCSD 880-120404/3-A	Lab Control Sample Dup	90	101
MB 880-120404/1-A	Method Blank	74	77

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-120457/5-A
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120457

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/03/25 11:48	10/03/25 17:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/03/25 11:48	10/03/25 17:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/03/25 11:48	10/03/25 17:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/03/25 11:48*	*10/03/25 17:37*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*10/03/25 11:48*	*10/03/25 17:37*	*1*

Lab Sample ID: LCS 880-120457/1-A
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08408		mg/Kg		84	70 - 130		
Toluene			0.100	0.08329		mg/Kg		83	70 - 130		
Ethylbenzene			0.100	0.08694		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1789		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.09086		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-120457/2-A
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 120457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08574		mg/Kg		86	70 - 130	2	35
Toluene			0.100	0.08492		mg/Kg		85	70 - 130	2	35
Ethylbenzene			0.100	0.08894		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1834		mg/Kg		92	70 - 130	2	35
o-Xylene			0.100	0.09234		mg/Kg		92	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-8906-1 MS
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: BH03
Prep Type: Total/NA
Prep Batch: 120457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1	0.100	0.07199		mg/Kg		72	70 - 130		
Toluene	<0.00200	U F1	0.100	0.07388		mg/Kg		74	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

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

Lab Sample ID: 890-8906-1 MS
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: BH03
Prep Type: Total/NA
Prep Batch: 120457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.07726		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1586		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.100	0.07932		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 890-8906-1 MSD
Matrix: Solid
Analysis Batch: 120472

Client Sample ID: BH03
Prep Type: Total/NA
Prep Batch: 120457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.100	0.06652	F1	mg/Kg		67	70 - 130	8	35
Toluene	<0.00200	U F1	0.100	0.06950	F1	mg/Kg		69	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.100	0.07233		mg/Kg		72	70 - 130	7	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1529		mg/Kg		76	70 - 130	4	35
o-Xylene	<0.00200	U	0.100	0.07554		mg/Kg		76	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-120404/1-A
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120404

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/03/25 08:21	10/06/25 08:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/03/25 08:21	10/06/25 08:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/03/25 08:21	10/06/25 08:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*10/03/25 08:21*	*10/06/25 08:36*	*1*
o-Terphenyl	*77*		*70 - 130*	*10/03/25 08:21*	*10/06/25 08:36*	*1*

Lab Sample ID: LCS 880-120404/2-A
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120404

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	891.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)			1000	773.5		mg/Kg		77	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

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

Lab Sample ID: LCS 880-120404/2-A
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120404

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: LCSD 880-120404/3-A
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 120404

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1056		mg/Kg		106	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	968.4	*1	mg/Kg		97	70 - 130	22	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: 880-63341-A-57-D MS
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120404

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	946.8		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	1000	808.0		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 880-63341-A-57-E MSD
Matrix: Solid
Analysis Batch: 120510

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 120404

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	971.1		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	1000	868.9		mg/Kg		85	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-120489/1-A
Matrix: Solid
Analysis Batch: 120491

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			10/04/25 16:53	1

Lab Sample ID: LCS 880-120489/2-A
Matrix: Solid
Analysis Batch: 120491

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-120489/3-A
Matrix: Solid
Analysis Batch: 120491

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	255.9		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-63422-A-11-B MS
Matrix: Solid
Analysis Batch: 120491

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1250		250	1426	4	mg/Kg		69	90 - 110		

Lab Sample ID: 880-63422-A-11-C MSD
Matrix: Solid
Analysis Batch: 120491

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1250		250	1427	4	mg/Kg		69	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

GC VOA

Prep Batch: 120457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	5035	
890-8906-2	BH03	Total/NA	Solid	5035	
MB 880-120457/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-120457/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-120457/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-8906-1 MS	BH03	Total/NA	Solid	5035	
890-8906-1 MSD	BH03	Total/NA	Solid	5035	

Analysis Batch: 120472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	8021B	120457
890-8906-2	BH03	Total/NA	Solid	8021B	120457
MB 880-120457/5-A	Method Blank	Total/NA	Solid	8021B	120457
LCS 880-120457/1-A	Lab Control Sample	Total/NA	Solid	8021B	120457
LCSD 880-120457/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	120457
890-8906-1 MS	BH03	Total/NA	Solid	8021B	120457
890-8906-1 MSD	BH03	Total/NA	Solid	8021B	120457

Analysis Batch: 120536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	Total BTEX	
890-8906-2	BH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 120404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	8015NM Prep	
890-8906-2	BH03	Total/NA	Solid	8015NM Prep	
MB 880-120404/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-120404/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-120404/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-63341-A-57-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-63341-A-57-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 120510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	8015B NM	120404
890-8906-2	BH03	Total/NA	Solid	8015B NM	120404
MB 880-120404/1-A	Method Blank	Total/NA	Solid	8015B NM	120404
LCS 880-120404/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	120404
LCSD 880-120404/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	120404
880-63341-A-57-D MS	Matrix Spike	Total/NA	Solid	8015B NM	120404
880-63341-A-57-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	120404

Analysis Batch: 120557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Total/NA	Solid	8015 NM	
890-8906-2	BH03	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

HPLC/IC

Leach Batch: 120489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Soluble	Solid	DI Leach	
890-8906-2	BH03	Soluble	Solid	DI Leach	
MB 880-120489/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-120489/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-120489/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-63422-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-63422-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 120491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8906-1	BH03	Soluble	Solid	300.0	120489
890-8906-2	BH03	Soluble	Solid	300.0	120489
MB 880-120489/1-A	Method Blank	Soluble	Solid	300.0	120489
LCS 880-120489/2-A	Lab Control Sample	Soluble	Solid	300.0	120489
LCSD 880-120489/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	120489
880-63422-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	120489
880-63422-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	120489

Lab Chronicle

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Client Sample ID: BH03
Date Collected: 10/02/25 09:06
Date Received: 10/02/25 14:59

Lab Sample ID: 890-8906-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	120457	10/03/25 11:48	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	120472	10/03/25 17:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			120536	10/03/25 17:58	SA	EET MID
Total/NA	Analysis	8015 NM		1			120557	10/06/25 11:23	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	120404	10/03/25 08:21	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	120510	10/06/25 11:23	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	120489	10/04/25 14:56	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	120491	10/04/25 18:56	CS	EET MID

Client Sample ID: BH03
Date Collected: 10/02/25 09:30
Date Received: 10/02/25 14:59

Lab Sample ID: 890-8906-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	120457	10/03/25 11:48	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	120472	10/03/25 18:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			120536	10/03/25 18:19	SA	EET MID
Total/NA	Analysis	8015 NM		1			120557	10/06/25 11:38	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	120404	10/03/25 08:21	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	120510	10/06/25 11:38	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	120489	10/04/25 14:56	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	120491	10/04/25 19:14	CS	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: BEU DI 29 Pad

Job ID: 890-8906-1
SDG: 03C1558585

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-8906-1	BH03	Solid	10/02/25 09:06	10/02/25 14:59	0.5
890-8906-2	BH03	Solid	10/02/25 09:30	10/02/25 14:59	2

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Chain of Custody

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

890-8906 Chain of Custody

1

Project Manager:	Tracy Hillard	Bill to: (if different)	Colton Brown
Company Name:	Ensolum	Company Name:	XTO Energy, Inc
Address:	3122 National Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	~~432 296 0627~~ 575.937.3986	Email:	Kthomason; Tmorrissey; Thillard; Jreich; Bbelill @ensolum.com

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU DI 29 Pad	Turn Around	
Project Number:	03C1558585	☐ Routine ☑ Rush	
Project Location:	32.56479, -103.77798	Due Date:	48hr
Sampler's Name:	Evan roe	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TMac7
~~Cooler Custody Seals:~~	~~Yes No N/A~~	~~Correction Factor:~~	~~-0.2~~
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH	BTEX	Parameters
BH03	Soil	10/2/2025	906	0.5	Grab	1		✓	✓	✓	
BH03	Soil	10/2/2025	930	2	Grab	1		✓	✓	✓	

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
~~$NaHSO_4$: NABIS~~
~~$Na_2S_2O_3$: $NaSO_3$~~
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID: nAPP2434828618
CC: 2108251001
GFCM: 48605000

~~Total 200.7 / 6010 200.8 / 6020:~~ 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Evan Roe		2:59 10/2	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-5963.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-8906-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 10/6/2025			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: BEU DI 29 Pad	Project #: 89000110			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH/Chloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BH03 (890-8906-1)	10/2/25	09:06 Mountain	G	Solid			X	X	X	X	X	1	
BH03 (890-8906-2)	10/2/25	09:30 Mountain	G	Solid			X	X	X	X	X	1	

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

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/2 4:05				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/3/25	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.9/1.6 - TR

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-8906-1
SDG Number: 03C1558585

Login Number: 8906
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-8906-1
SDG Number: 03C1558585

Login Number: 8906
List Number: 2
Creator: Laing, Edmundo

List Source: Eurofins Midland
List Creation: 10/03/25 09:52 AM

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

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APPENDIX F

March 10, 2025 Deferral Request

March 10, 2025

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

Re: Deferral Request
BEU DI 29 Pad
Incident Numbers nAPP2434828618
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document assessment, delineation, and soil sampling activities at the BEU DI 29 Pad (Site). The purpose of the assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a produced water and crude oil release on the pad surface due to dump valve failure. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing Site assessment and delineation activities that have occurred and requesting deferral of final remediation for Incident Number nAPP2434828618 until the Site is reconstructed, and/or the well pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 21, Township 20 South, Range 32 East, in Lea County, New Mexico (32.564955º, -103.778164º) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management. It was originally reported as being associated with State Land managed by the New Mexico State Land Office (SLO) but after further review of available land access maps, it was confirmed to be located on Federal Land.

On December 10, 2024, failure of a dump valve resulted in the release of 8 barrels (bbls) of produced water and 1 bbl of crude oil into a lined containment and released overspray on and between active production structures, engineered facility equipment, and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 8 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) on December 13, 2024 and subsequently submitted an Initial C-141 Application (C-141) on December 17, 2024. The release was assigned Incident Number nAPP2434828618.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on nearest groundwater well data. The closest permitted well with depth to groundwater data is a New Mexico Office of State Engineer (OSE) permitted well CP-01891 POD 1, located approximately 0.13 miles northwest of the Site. CP-01891 POD 1 was drilled utilizing hollow stem auger method for determination of regional depth to groundwater on October 26, 2021. The well has a reported depth to groundwater of 33.2 feet bgs and a total depth of 55 feet bgs. The soil boring was plugged following the OSE approved plugging plan. The referenced well record and log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 524 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by unstable geology (medium potential karst designation area).

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

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

SITE ASSESSMENT AND LINER INSPECTION ACTIVITIES

On December 20, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations of the release. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit. The lined containment was cleaned of all debris, power washed and a 48-hour advance notice of the liner inspection was submitted on December 18, 2024. On December 20, 2024, the lined containment was inspected by Ensolum personnel and was determined to be operating as designed. Upon inspection, no rips, tears, holes, or damage were observed. The liner was detemined to be sufficient, and all released fluids within the lined containment had been recovered. A site map of the liner is included in Figure 2. Photographic documentation of the inspection is included in Appendix B.

SURFACE SCRAPING AND DELINEATION SOIL SAMPLING ACTIVITIES

On February 26 and February 27, 2025, Ensolum personnel returned to the site to oversee surface scraping and conducted delineation activities. Surface scraping of visibly stained soil was conducted in the release area to the maximum extent possible. Seven delineation soil samples, SS01 through SS07, were collected from a depth of approximately 0.5 feet bgs around the release to assess the lateral extent. Additionally, two boreholes, BH01 and BH02, were advanced via hand auger within the release extent. Surface scraping activities were performed utilizing hand tools, as no mechanical equipment could access the impacted soil due to active production structures, surface pipelines, and engineered facility equipment. Following surface scraping activities, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the accessible areas of the release. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples CS01 through CS08 were collected from the pad surface from a depth of 0.5 feet bgs. The soil samples

were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Photographic documentation is included in Appendix B. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The release extent, delineation soil sample, and confirmation soil sample locations are depicted in Figure 2.

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

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples, SS01 through SS07, collected around the release extent from a depth of 0.5 feet bgs indicated all COCs were in compliance with Site Closure Criteria, successfully defining the lateral extent of the release. Laboratory analytical results for delineation soil samples BH01 and BH02, collected at depths ranging from 0.5 feet to 1-foot bgs, indicated all COCs were in compliance with Site Closure Criteria. Laboratory analytical results for confirmation soil samples CS01 through CS03, and CS06 indicated all COCs were in compliance with Closure Criteria. Confirmation soil samples CS04, CS05, CS07, and CS08 indicated TPH and/or chloride concentrations that exceeded Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

DEFERRAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production structures, surface pipelines, and engineered facility equipment preventing excavation of impacted soil in the vicinity of CS03, CS04, CS07, and CS08. 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 samples BH01 and BH02, collected at 1-foot bgs. The soil is laterally defined by delineation soil samples SS01 through SS07. The estimated area of impacted soil left in place immediately adjacent to active production equipment measures approximately 1,640 square feet and a total of approximately 61 cubic yards of impacted soil remains in place.

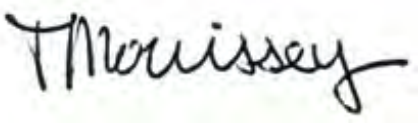
XTO does not believe deferral will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be less than 50 feet but the impacts are estimated to be greater than 30 feet above groundwater. Gross impacts were removed during surface scraping activities and the impacted soil remaining in place is limited in areal and vertical extent.

Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number nAPP2434828618 until 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

Tracy Hillard
Project Engineer



Tacoma Morrissey
Associate Principal

cc: Robert Woodall, XTO
Kaylan Dirkx, XTO
BLM
SLO

Appendices:

Figure 1	Site Receptor Map
Figure 2	Soil Sample Locations
Figure 3	Area of Requested Deferral
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation

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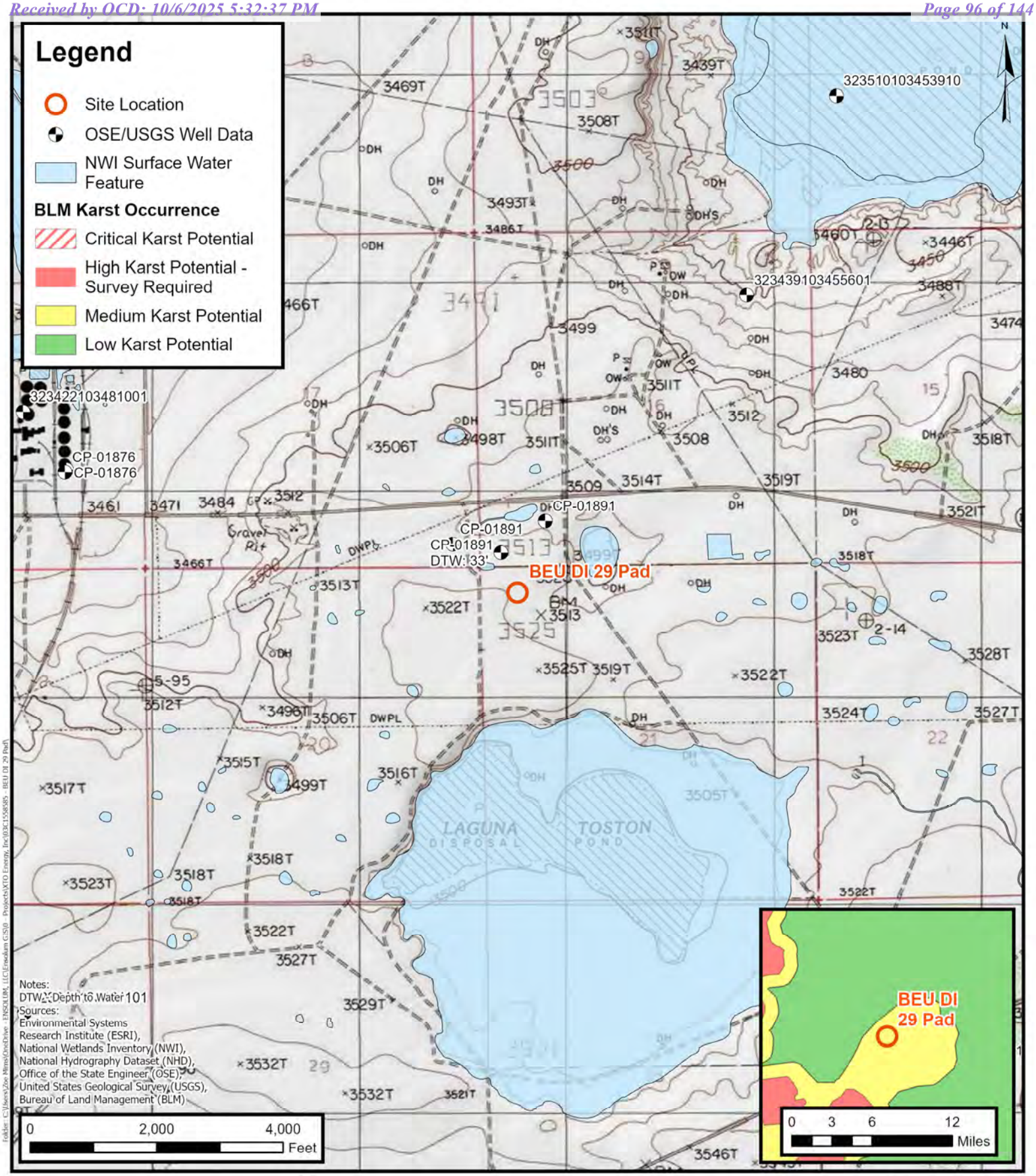
FIGURES

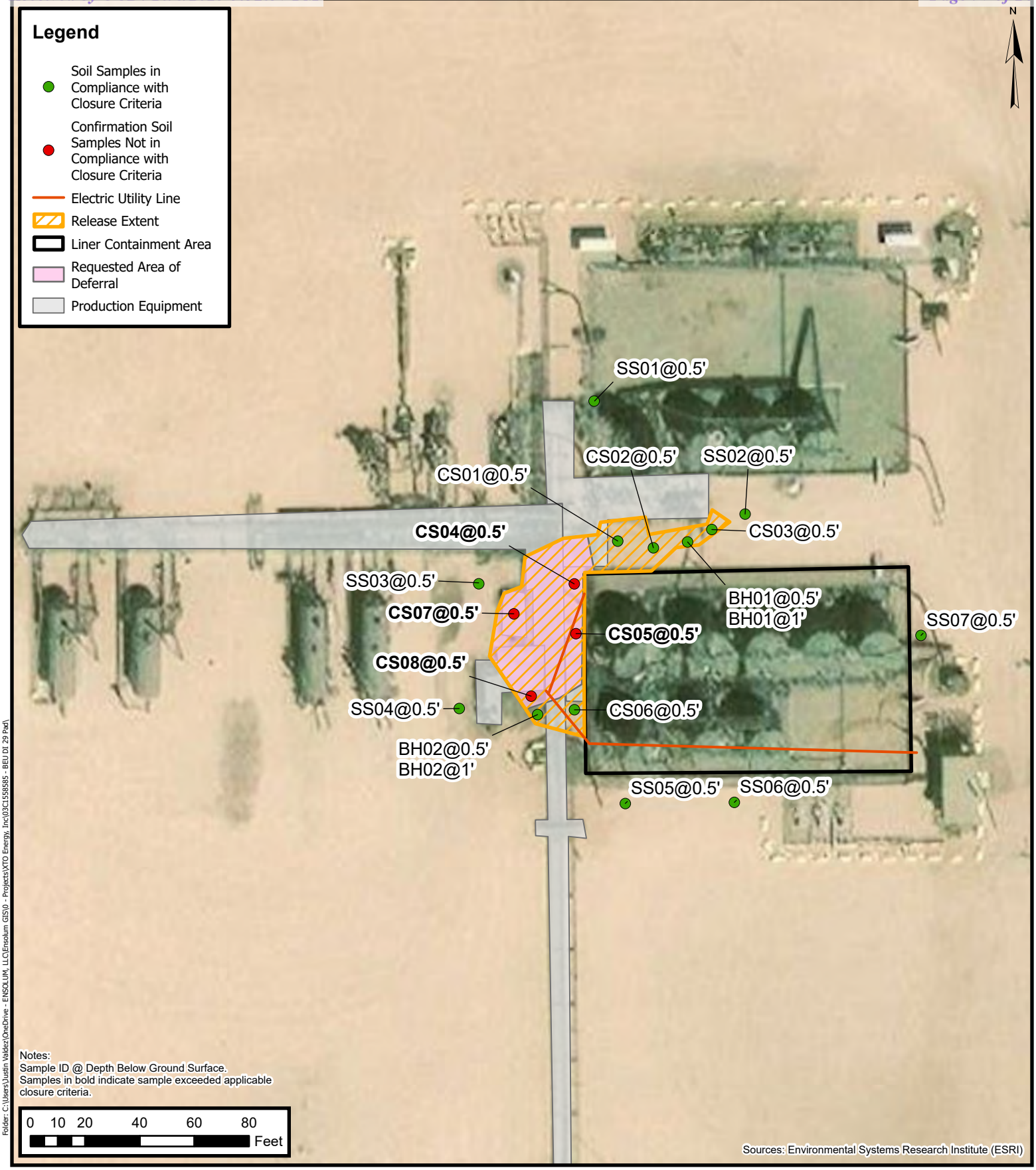


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
BEU DI 29 Pad
Incident Number: nAPP2434828618
Unit D, Section 21, T 20S, R 32E
Lea County, New Mexico

FIGURE 1



Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558585 - BEU DI 29 Pad\

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Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Locations

XTO Energy, Inc
BEU DI 29 Pad
Incident Number: nAPP2434828618
Unit D, Section 21, T 20S, R 32E
Lea County, New Mexico

FIGURE 2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU DI 29 PAD
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	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SS02	02/27/2025	0.5	<0.050	<0.300	<10.0	12.7	<10.0	12.7	12.7	64.0
SS03	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS04	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS05	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS06	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS07	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
BH01	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
BH01	02/26/2025	1	<0.050	<0.300	<10.0	13.5	<10.0	13.5	13.5	96.0
BH03	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH03	02/26/2025	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
Confirmation Soil Samples										
CS01	02/26/2025	0.5	<0.050	<0.300	<10.0	22.8	<10.0	22.8	22.8	80.0
CS02	02/26/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
CS03	02/27/2025	0.5	<0.050	<0.300	<10.0	300	52.7	<10.0	<10.0	128
CS04	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**5,040**
CS05	02/27/2025	0.5	<0.050	16.6	441	3,440	476	3,881	**4,357**	**992**
CS06	02/27/2025	0.5	<0.050	<0.300	<10.0	41.8	<10.0	41.8	41.8	208
CS07	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**2,040**
CS08	02/27/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**6,100**

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

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	CP-1891

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Adrian Baker)	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Dr.	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	33	59.48	N
	LONGITUDE	103	46	41.34	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

SE SE Unit M Sec16 T20S R32E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
10/26/2021	10/26/2021	temporary well material	55	±33

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 33.20

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	55	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

OSE DII NOV 29 2021 PM4:02

FOR OSE INTERNAL USE

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

FILE NO. CP-1891	POD NO. 1	TRN NO. 709444
LOCATION 20S.32E.16.333	WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Caliche, Mod. Consolidated, Tan, Dry	Y ✓ N	
4	8	4	Sand, fine-very grained, poorly graded, Brown, moist	Y ✓ N	
8	16	8	Sand, fine-very grained, poorly graded, with gravel Pinkish Brown, moist	Y ✓ N	
16	20	4	Sand, fine-very grained, poorly graded, with clayey gravel, Light Brown, moist	Y ✓ N	
20	26	6	Clayey Sand, very fine grained, poorly graded, caliche gravel, Tan , moist	Y ✓ N	
26	36	10	Clayey Sand, med-fine grained, poorly graded, caliche gravel, Brown , moist	✓ Y N	
36	49	13	Sandstone, mod consolidated, with increasing clay Reddish Brown, Moist	✓ Y N	
49	55	6	Claystone, low plasticity, cohesive, Dark Brown, moist	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring plugged using Type I/II neat cement from total depth to surface with augers as tremie.
Logs adapted from WSP on-site geologist.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 11/16/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

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

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APPENDIX B

Photographic Log

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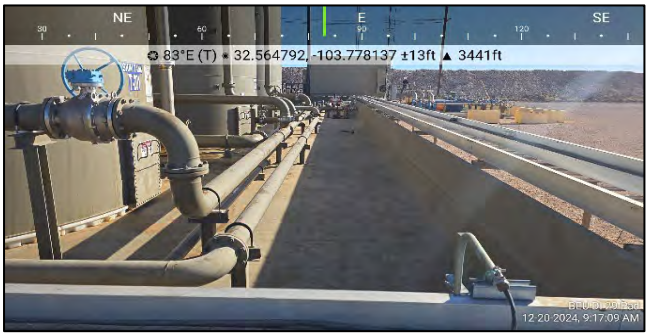
Photographic Log
XTO Energy, Inc
BEU DI 29 Pad
nAPP2434828618

Photograph: 1 Date: 12/20/2024
Description: Well sign
View: East



Photograph: 2 Date: 12/20/2024
Description: Liner inspection activities
View: East

Photograph: 3 Date: 12/20/2024
Description: Liner inspection activities
View: West

Photograph: 4 Date: 12/20/2024
Description: Overspray area
View: East

ENSOLUM

Photographic Log
XTO Energy, Inc
BEU DI 29 Pad
nAPP2434828618

Photograph: 5 Date: 2/26/2025
Description: Surface scrape and delineation activities
View: South

Photograph: 6 Date: 2/26/2025
Description: Surface scrape and delineation activities
View: Southeast

Photograph: 7 Date: 2/27/2025
Description: Surface scrape and delineation activities
View: East

Photograph: 8 Date: 2/27/2025
Description: Surface scrape and delineation activities
View: Northeast

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APPENDIX C

Lithologic Soil Sampling Logs

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	Sample Name: BH01	Date: 02/26/2025
	Site Name: BEU DI 29 Pad	
	Incident Number: nAPP2434828618	
	Job Number: 03C1558585	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Evan Roe	Method: Hand Auger
Coordinates: 32.565023, -103.778007	Hole Diameter: 3.5 inch	Total Depth: 1-foot

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% Correction Factor for chloride is included

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<162	0.6	N	BH01	0.5		CCHE	(0-1') CALICHE, light brown and tan, fine grained, uniform, no staining, no odor
Dry	<162	0.1	N	BH01A	1	1		
Total Depth @ 1-foot								

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	Sample Name: BH02	Date: 02/26/2025
	Site Name: BEU DI 29 Pad	
	Incident Number: nAPP2434828618	
	Job Number: 03C1558585	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Evan Roe	Method: Hand Auger
Coordinates: 32.564851, -103.778187	Hole Diameter: 3.5 inch	Total Depth: 1-foot

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% Correction Factor for chloride is included

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	196	0.5	N	BH02	0.5		SP-SM	(0-0.5') SILTY SAND, brown, fine, uniform, trace caliche, no odor
Dry	162	0.0	N	BH02A	1	1	CCHE	(0.5-1') CALICHE , tan, fine, uniform, no odor
Total Depth @ 1-foot								

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

February 28, 2025

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: BEU DI 29 PCA

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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: BH 03 .5 (H251170-01)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *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	**160**	16.0	02/28/2025	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	02/27/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	<10.0	10.0	02/27/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/27/2025	ND					

Surrogate: 1-Chlorooctane *99.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *104 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: BH 03 1 (H251170-02)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *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	**160**	16.0	02/28/2025	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	02/27/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	<10.0	10.0	02/27/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/27/2025	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *112 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: BH 01 .5 (H251170-03)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *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	02/28/2025	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	02/27/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	<10.0	10.0	02/27/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/27/2025	ND					

Surrogate: 1-Chlorooctane *98.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: BH 01 1 (H251170-04)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	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	**96.0**	16.0	02/28/2025	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	02/28/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	**13.5**	10.0	02/28/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *95.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: CS 01 .5 (H251170-05)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *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	**80.0**	16.0	02/28/2025	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	02/28/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	**22.8**	10.0	02/28/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *99.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/27/2025	Sampling Date:	02/26/2025
Reported:	02/28/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PCA	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.56479, -103.77798		

Sample ID: CS 02 .5 (H251170-06)

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	02/27/2025	ND	1.94	97.0	2.00	2.25	
Toluene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	1.32	
Ethylbenzene*	<0.050	0.050	02/27/2025	ND	2.01	100	2.00	0.732	
Total Xylenes*	<0.150	0.150	02/27/2025	ND	6.16	103	6.00	1.14	
Total BTEX	<0.300	0.300	02/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *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	**64.0**	16.0	02/28/2025	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	02/28/2025	ND	199	99.5	200	0.357	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	196	98.1	200	1.71	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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
Project Manager: Tracy Hillard	P.O. #:
Address: 601 N Marienfeld Street, Suite 400	Company: XTO Energy, Inc
City: Midland State: TX Zip: 79701	Attn: Colton Brown
Phone #: 575-937-3906 Fax #:	Address: 3104 E Greene St
Project #: 03C1558585 Project Owner: XTO Energy	City: Carlsbad
Project Name: BEU D1 29 PCA	State: NM Zip: 88220
Project Location: 32.56479, -103.77798	Phone #:
Sampler Name: Evan Rea	Fax #:

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST												
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500											
H251170																												
1	BHC3	.5	G	1			✓					✓		2/26/25	1025	✓	✓	✓											
2	BH03	1	G	1			✓					✓		2/26/25	1039	✓	✓	✓											
3	BH01	.5	G	1			✓					✓		2/26/25	1225	✓	✓	✓											
4	BH01	1	G	1			✓					✓		2/26/25	1232	✓	✓	✓											
5	CS01	.5	C	1			✓					✓		2/26/25	[illegible]	✓	✓	✓											
6	CS02	.5	C	1			✓					✓		2/26/25	1430	✓	✓	✓											

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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: Evan Rea	Date: 2-27-25 Time: 1400	Received By: [signature]	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: BBelill@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com
			REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 31 Corrected Temp. °C 31.4	Sample Condition Cool ☑ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials) TO
			Turnaround Time: Standard ☐ Rush ☑ 24hr Thermometer ID #140 Correction Factor -0.5°C +0.3° 2/27/25
			Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

March 03, 2025

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: BEU DI 29 PAD

Enclosed are the results of analyses for samples received by the laboratory on 02/28/25 9:40.

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 accreditated 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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 03 .5' (H251211-01)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *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	**128**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	**300**	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	**52.7**	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *92.6 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *102 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 04 .5' (H251211-02)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5040**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *105 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *106 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 05 .5' (H251211-03)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	**1.93**	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	**3.33**	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	**11.3**	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	**16.6**	0.300	02/28/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *145 %* *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	**992**	16.0	02/28/2025	ND	464	116	400	7.14	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**441**	10.0	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	**3440**	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	**476**	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *137 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *168 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 06 .5' (H251211-04)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	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	**208**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	**41.8**	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *85.1 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *86.2 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 07 .5' (H251211-05)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *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	**2040**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *99.0 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *99.3 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: CS 08 .5' (H251211-06)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *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	**6100**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *97.1 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *97.6 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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**
Project Manager: Tracy Hillard	**P.O. #:**
Address: 601 N Marienfeld Street, Suite 400	**Company:** XTO Energy, Inc
City: Midland **State:** TX **Zip:** 79701	**Attn:** Colton Brown
Phone #: 575-937-3906 **Fax #:**	**Address:** 3104 E Greene St
Project #: 03C1558565 **Project Owner:** XTO Energy	**City:** Carlsbad
Project Name: BEU D1 29 Pad	**State:** NM **Zip:** 88220
Project Location: 32.56429,-103.77798	**Phone #:**
Sampler Name: Evan Rea	**Fax #:**

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
H251811																		
1	CS03	.5	C	1			✓					✓		2-27-25	1229	✓	✓	✓
2	CS04	.5	C	1			✓					✓		2-27-25	1245	✓	✓	✓
3	CS05	.5	C	1			✓					✓		2-27-25	1300	✓	✓	✓
4	CS06	.5	C	1			✓					✓		2-27-25	1322	✓	✓	✓
5	CS07	.5	C	1			✓					✓		2-27-25	1602	✓	✓	✓
6	CS08	.5	C	1			✓					✓		2-27-25	926	✓	✓	✓

Relinquished By: Evan Rea	**Date:** 02-28-25 **Time:** 0820	**Received By:**	
Relinquished By:	**Date:** 022825 **Time:** 0940	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.3 Corrected Temp. °C 4.5	Sample Condition: Cool ☐ Yes ☐ No, Intact ☐ Yes ☐ No	**CHECKED BY:** (Initials)

Verbal Result: ☐ Yes ☒ No **Add'l Phone #:**

All Results are emailed. Please provide Email address:

BBelill@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com

REMARKS:

incident ID: nAPP2434828618 CC: 210825001

Turnaround Time: ☐ Standard ☐ Rush

Thermometer ID #113 Correction Factor -0.5°C + 0.3°C

☑ Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No, Intact ☐ Yes ☐ No

Observed Temp. °C 249

Corrected Temp. °C

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

March 03, 2025

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: BEU DI 29 PAD

Enclosed are the results of analyses for samples received by the laboratory on 02/28/25 9:40.

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 accreditated 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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 01 .5 (H251212-01)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	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	**336**	16.0	02/28/2025	ND	464	116	400	7.14	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *95.3 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *95.1 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 02 .5 (H251212-02)

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	02/28/2025	ND	1.86	92.9	2.00	0.511	
Toluene*	<0.050	0.050	02/28/2025	ND	1.93	96.7	2.00	0.460	
Ethylbenzene*	<0.050	0.050	02/28/2025	ND	2.01	100	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/28/2025	ND	6.14	102	6.00	1.32	
Total BTEX	<0.300	0.300	02/28/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *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	**64.0**	16.0	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	206	103	200	3.50	
DRO >C10-C28*	**12.7**	10.0	02/28/2025	ND	205	103	200	2.17	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *100 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *102 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 03 .5 (H251212-03)

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	03/01/2025	ND	1.80	89.9	2.00	3.31	
Toluene*	<0.050	0.050	03/01/2025	ND	1.92	96.0	2.00	2.50	
Ethylbenzene*	<0.050	0.050	03/01/2025	ND	1.89	94.7	2.00	2.80	
Total Xylenes*	<0.150	0.150	03/01/2025	ND	5.55	92.5	6.00	2.45	
Total BTEX	<0.300	0.300	03/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.7 %* *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	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	214	107	200	5.09	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	200	99.8	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *92.5 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *88.8 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 04 .5 (H251212-04)

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	03/01/2025	ND	1.80	89.9	2.00	3.31	
Toluene*	<0.050	0.050	03/01/2025	ND	1.92	96.0	2.00	2.50	
Ethylbenzene*	<0.050	0.050	03/01/2025	ND	1.89	94.7	2.00	2.80	
Total Xylenes*	<0.150	0.150	03/01/2025	ND	5.55	92.5	6.00	2.45	
Total BTEX	<0.300	0.300	03/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *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	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	214	107	200	5.09	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	200	99.8	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *89.1 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *86.2 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 05 .5 (H251212-05)

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	03/01/2025	ND	1.80	89.9	2.00	3.31	
Toluene*	<0.050	0.050	03/01/2025	ND	1.92	96.0	2.00	2.50	
Ethylbenzene*	<0.050	0.050	03/01/2025	ND	1.89	94.7	2.00	2.80	
Total Xylenes*	<0.150	0.150	03/01/2025	ND	5.55	92.5	6.00	2.45	
Total BTEX	<0.300	0.300	03/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.5 %* *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	**80.0**	16.0	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	214	107	200	5.09	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	200	99.8	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *88.3 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *84.8 %* *63.9-155*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 06 .5 (H251212-06)

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	03/01/2025	ND	1.80	89.9	2.00	3.31	
Toluene*	<0.050	0.050	03/01/2025	ND	1.92	96.0	2.00	2.50	
Ethylbenzene*	<0.050	0.050	03/01/2025	ND	1.89	94.7	2.00	2.80	
Total Xylenes*	<0.150	0.150	03/01/2025	ND	5.55	92.5	6.00	2.45	
Total BTEX	<0.300	0.300	03/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.6 %* *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	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	214	107	200	5.09	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	200	99.8	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *92.6 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *90.2 %* *63.9-155*

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Analytical Results For:

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

Received:	02/28/2025	Sampling Date:	02/27/2025
Reported:	03/03/2025	Sampling Type:	Soil
Project Name:	BEU DI 29 PAD	Sampling Condition:	Cool & Intact
Project Number:	03C1558585	Sample Received By:	Alyssa Parras
Project Location:	XTO - 32.56429-103.77798		

Sample ID: SS 07 .5 (H251212-07)

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	03/01/2025	ND	1.80	89.9	2.00	3.31	
Toluene*	<0.050	0.050	03/01/2025	ND	1.92	96.0	2.00	2.50	
Ethylbenzene*	<0.050	0.050	03/01/2025	ND	1.89	94.7	2.00	2.80	
Total Xylenes*	<0.150	0.150	03/01/2025	ND	5.55	92.5	6.00	2.45	
Total BTEX	<0.300	0.300	03/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.2 %* *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	**224**	16.0	02/28/2025	ND	432	108	400	7.69	

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	02/28/2025	ND	214	107	200	5.09	
DRO >C10-C28*	<10.0	10.0	02/28/2025	ND	200	99.8	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	02/28/2025	ND					

Surrogate: 1-Chlorooctane *94.6 %* *71.8-148*

Surrogate: 1-Chlorooctadecane *92.3 %* *63.9-155*

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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

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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**
Project Manager: Tracy Hillard	**P.O. #:**
Address: 601 N Marienfeld Street, Suite 400	**Company:** XTO Energy, Inc
City: Midland **State:** TX **Zip:** 79701	**Attn:** Colton Brown
Phone #: 575-937-3906 **Fax #:**	**Address:** 3104 E Greene St
Project #: 03C1588585 **Project Owner:** XTO Energy	**City:** Carlsbad
Project Name: BEU D129 Pad	**State:** NM **Zip:** 88220
Project Location: 32.56429, -103.77298	**Phone #:**
Sampler Name: Evan Rae	**Fax #:**

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
H256212																		
1	SS01	.5	G	1			✓					✓		2-27-25	1232	✓	✓	✓
2	SS02	.5	G	1			✓					✓		2-27-25	947	✓	✓	✓
3	SS03	.5	G	1			✓					✓		2-27-25	930	✓	✓	✓
4	SS04	.5	G	1			✓					✓		2-27-25	933	✓	✓	✓
5	SS05	.5	G	1			✓					✓		2-27-25	936	✓	✓	✓
6	SS06	.5	G	1			✓					✓		2-27-25	935	✓	✓	✓
7	SS07	.5	G	1			✓					✓		2-27-25	942	✓	✓	✓

ANALYSIS REQUEST

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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: Evan Rae	**Date:** 02-28-25 **Time:** 0820	**Received By:**	
Relinquished By:	**Date:** 02-28-25 **Time:** 940	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.8 Corrected Temp. °C 4.5 / 2.9	**Sample Condition** Cool: Yes / No Intact: Yes / No	**CHECKED BY:** (Initials)

Verbal Result: ☐ Yes ☒ No **Add'l Phone #:**

All Results are emailed. Please provide Email address:

BBelill@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com

REMARKS:

Incident #: nAPP2434828618 CC: 210825001

Turnaround Time: ☐ Standard ☑ Rush

AP 2-28-25

Thermometer ID #113 / #140 **Correction Factor** -0.5°C / 0.3 24h

Bacteria (only) Sample Condition Cool: ☐ Yes ☐ Nc Intact: ☐ Yes ☐ No **Observed Temp. °C** **Corrected Temp. °C**

FORM-006 R 3.2 10/07/21

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

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Phone: (505) 476-3441

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Phone: (505) 629-6116

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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 512675

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2434828618**
Incident Name	**NAPP2434828618 BEU DI 29 PAD @ D-21-20S-32E**
Incident Type	**Produced Water Release**
Incident Status	**Deferral Request Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	BEU DI 29 PAD
Date Release Discovered	12/10/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Dump Valve | Crude Oil | Released: 1 BBL | Recovered: 0 BBL | Lost: 1 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Dump Valve | Produced Water | Released: 8 BBL | Recovered: 8 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	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	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Robert Woodall Title: Environmental Analyst Email: robert.d.woodall@exxonmobil.com Date: 10/06/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	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 26 and 50 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
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 ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	6100
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4357
GRO+DRO (EPA SW-846 Method 8015M)	3881
BTEX (EPA SW-846 Method 8021B or 8260B)	16.6
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	12/20/2024
On what date will (or did) the final sampling or liner inspection occur	10/02/2025
On what date will (or was) the remediation complete(d)	10/02/2025
What is the estimated surface area (in square feet) that will be reclaimed	2488
What is the estimated volume (in cubic yards) that will be reclaimed	77
What is the estimated surface area (in square feet) that will be remediated	2488
What is the estimated volume (in cubic yards) that will be remediated	77
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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	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	fEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
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: Robert Woodall Title: Environmental Analyst Email: robert.d.woodall@exxonmobil.com Date: 10/06/2025
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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	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	Surface and subsurface pipelines, power poles, electrical lines, lined containment with tanks
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	1640
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	61
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	fAPP2123046227 BIG EDDY UNIT DI29
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: Robert Woodall Title: Environmental Analyst Email: robert.d.woodall@exxonmobil.com Date: 10/06/2025

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Phone: (505) 629-6116

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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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**433815**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**02/28/2025**
What was the (estimated) number of samples that were to be gathered	**30**
What was the sampling surface area in square feet	**6000**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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

General Information
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CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 512675
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

CONDITIONS

Created By	Condition	Condition Date
scwells	Deferral approved with the following condition: CS03 is also included in the deferral area as GRO + DRO = 352.7 mg/kg at.5'.	10/9/2025
scwells	Deferral approved. Deferral of CS03 through CS05, CS07 and CS08 is approved until plugging and abandonment or a major facility deconstruction, whichever comes first. A complete and accurate remediation report and/or reclamation report will need to be submitted at that time.	10/9/2025