ENSOLUM

December 11, 2024

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

Re: Deferral Request
PLU 29 BS West Battery
Incident Number NAPP2425727179
Eddy 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 site assessment, delineation, excavation, and soil sampling activities at the PLU 29 BS West Battery (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil and produced water. Based on field observations and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing Site assessment, delineation and excavation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2425727179 until the Site is reconstructed, and/or the well pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 29, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.10427°, -103.80211°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On September 12, 2024, corrosion on a produced water surface pipeline resulted in the release of approximately 15 barrels (bbls) of crude oil and 15 bbls of produced water onto the surface of the well pad and around active production equipment and process piping. A vacuum truck was immediately dispatched to the Site and recovered approximately 14 bbls of released fluids. XTO submitted a Notification of Release (NOR) and Initial C-141 Application (C-141) to the New Mexico Oil Conservation Division (NMOCD) on September 13, 2024. The release was assigned Incident Number NAPP2425727179.

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.

Depth to groundwater at the Site is estimated to be greater than 51 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. On May 29, 2024, a soil boring permitted by New Mexico Office of the State Engineer (OSE) well C-4826, located approximately 300 feet northeast of the Site was drilled utilizing an air rotary drilling rig. The boring was drilled to a total

depth of 55 feet bgs. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for the potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 55 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A. All wells used to determine depth are presented on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 3,891 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is in amedium potential karst designation area, however the release and a majority of the remedial activities occurred prior to December 1, 2024, the effective date of the NMOCD published *Karst Potential Occurrence Zones Public Notice*. Potential Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On September 27, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141, information provided by XTO, and visual observations. Five delineation soil samples (SS01 through SS05) were collected within the release extent area at a depth 0.5 feet bgs. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing and Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was collected and a photographic log is included in Appendix B.

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

Laboratory analytical results from delineation soil samples SS01 through SS03, and SS05 indicated chloride and TPH concentrations exceeded the Closure Criteria. Based on visible staining and laboratory analytical results, additional delineation and excavation of impacted soil appeared warranted.

DELINEATION AND EXCAVATION ACTIVITIES

Between November 21 through December 10, 2024, Ensolum personnel returned to the Site to oversee delineation and excavation activities. Nine potholes were advanced via backhoe or core drill to assess soil impacts. Four of the potholes were advanced in the vicinty of SS01 through SS04 located within the release extent to define the release vertically and five potholes (SS06 through SS09, and SS11) were advanced around the release extent to define the lateral extent of soil impacts. All potholes were advanced to depths ranging from 1 feet to 5 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 5 feet bgs. The delineation soil samples were field screened, handled, and submitted for analysis for the same COCs as described above. Field screening results and observations from all potholes were logged on a lithologic/soil sampling log, which are included in Appendix C. All delineation soil sample locations are depicted on Figure 2.

Soil was excavated from the area represented by delineation soil samples SS04 and SS05. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any on-site, active production equipment; however, the accessible spill area was excavated to the maximum extent possible (MEP) with heavy equipment. Heavy equipment could not access soil sample locations SS01 through SS03 due to proximity to active production equipment and pipelines. Following the removal of impacted soil, 5-point composite confirmation soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. Confirmation soil samples FS01 through FS04 were collected at a depth of 4 feet bgs and SW01 and SW02 were collected at depths ranging from ground surface to 4 feet bgs. 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 thouroughly mixing. Confirmation soil samples were handled and analyzed in the same manner as described above. All floor and sidewall excavation confirmation soil sample locations are depicted on Figure 3.

The final excavation extent measured approximately 671 square feet. A total of approximately 100 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the OWL Landfill Facility in Jal, New Mexico.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 through SS03, and SS05 collected from within the release extent indicated TPH and chloride concentrations exceed Closure Criteria. Soil sample SS05 was removed during excavation activities. Soil sample SS04 indicated elevated chloride concentrations but was removed during excavation activities. Confirmation soil sample SW02 indicated GRO/DRO concentrations exceed Closure Critiera. Confirmation soil sample SW01 collected on November 11, 2024 indicated elevated TPH concentrations but the sidewall sample was removed by extending the sidewall to the northeast during excavation activities and another SW01 collected on December 3, 2024 was in compliance with Closure Critiera. Due to active production equipment and process piping present in the area, soil samples SS01 through SS03, and SW02 could not be removed. However, laboratory analytical results from the terminal depth of SS01 through SS03 indicated that vertical delineation is achieved at depth ranging from 1-foot to 4 feet bgs within the release area.

All other delineation and confirmation soil samples collected indicated COC concentrations in compliance with Closure Criteria. This includes all lateral delineaton soil samples (SS06 through SS08, and SS11) and provide full lateral definition of impacted soil. Laboratory analytical results are summarized on Table 1, and the complete laboratory analytical reports are included in Appendix D.

DEFFERAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment and process piping preventing full excavation of impacted soil. The estimated area of remaining impacted soil measures an area of 3,293 square feet and a total of approximately 380 cubic yards of TPH and chloride impacted soil remains in place, assuming depths ranging from 1-foot to 4 feet bgs based on laboratory analytical results from delineation soil samples. The impacted soil is limited to the area beneath active production equipment and surface piping, where remediation would require a major facility deconstruction. The release extent has been vertically delineated by delineation soil samples SS01A collected at 2 feet bgs, SS02A collected at 4 feet bgs, and SS03A collected at 1 feet bgs. The release extent has been laterally delineated by all delineation soil samples collected in potholes SS06 through SS08, and SS11, and excavation sidewall soil sample SW01 collected on December 3, 2024 from depths ranging from ground surface to 4 feet bgs. The deferral area and all delineation and excavation soil samples used to define the deferral area are depicted on Figure 4.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 51 feet, and the entirety of the release remained on pad. Based on the presence of active production equipment and process piping within the release area and the complete lateral and vertical definition of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2425727179 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

Benjamin J. Belill
Senior Geologist

Tacoma Morrissey, MS
Associate Principal

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Deferral Area Map
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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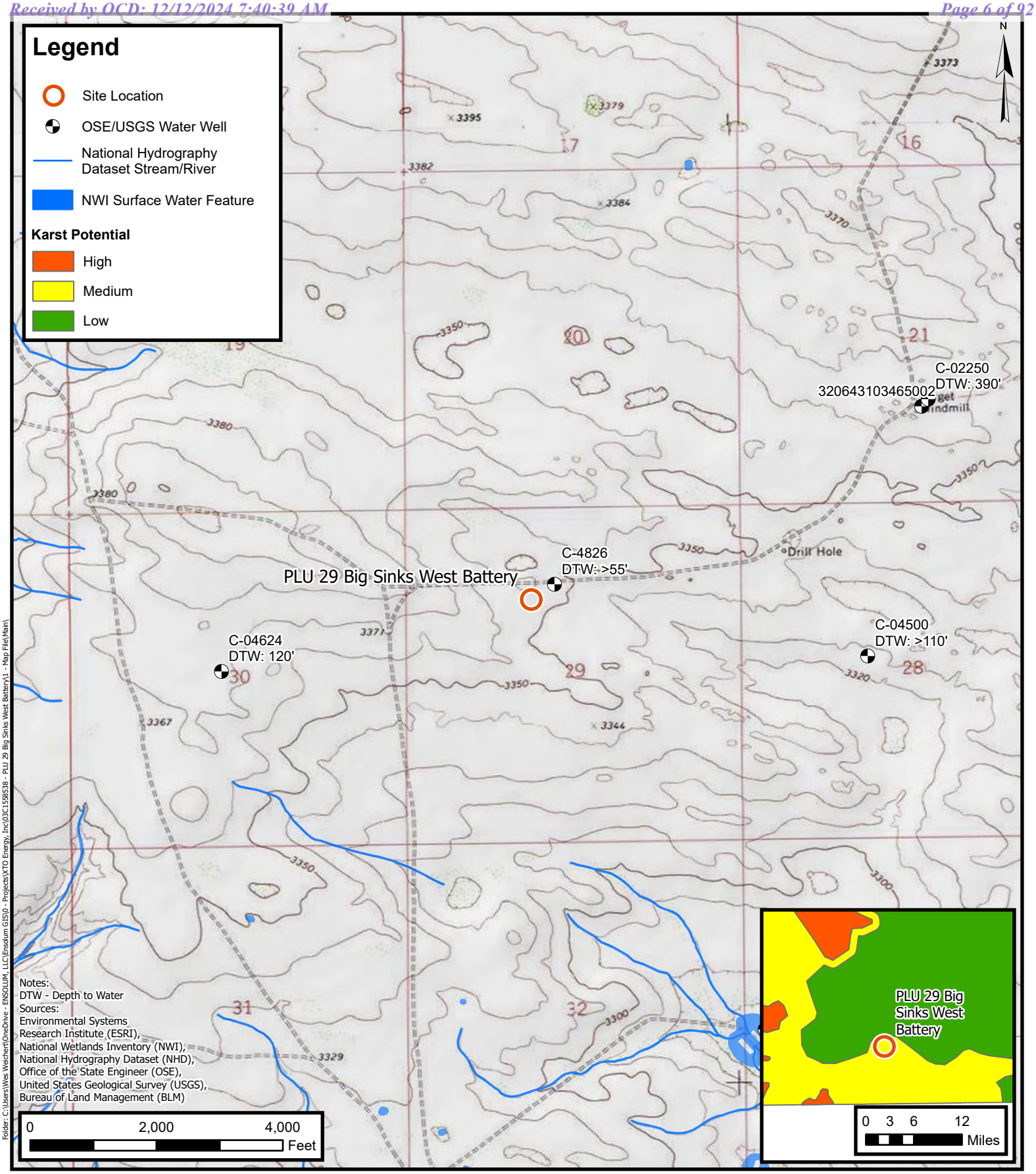
FIGURES



Folder: C:\Users\Wes Weichert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1588538 - PLU 29 Big Sinks West Battery\1 - Map File\Main\

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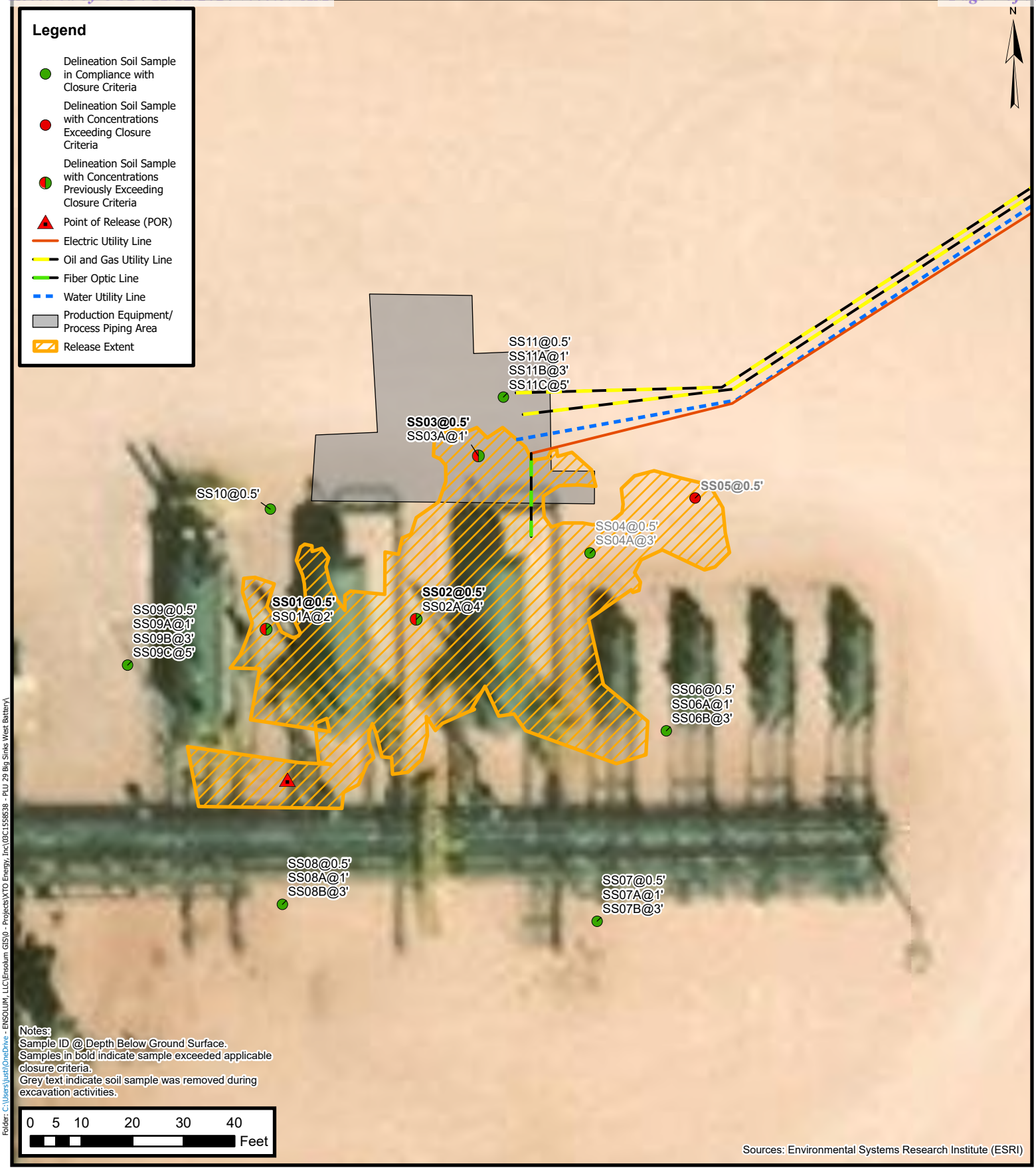
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc.
PLU 29 BS West Battery
Incident Number: NAPP2425727179
Unit F, Sec 29, T25S, R31E
Eddy Co, New Mexico, United States

FIGURE 1



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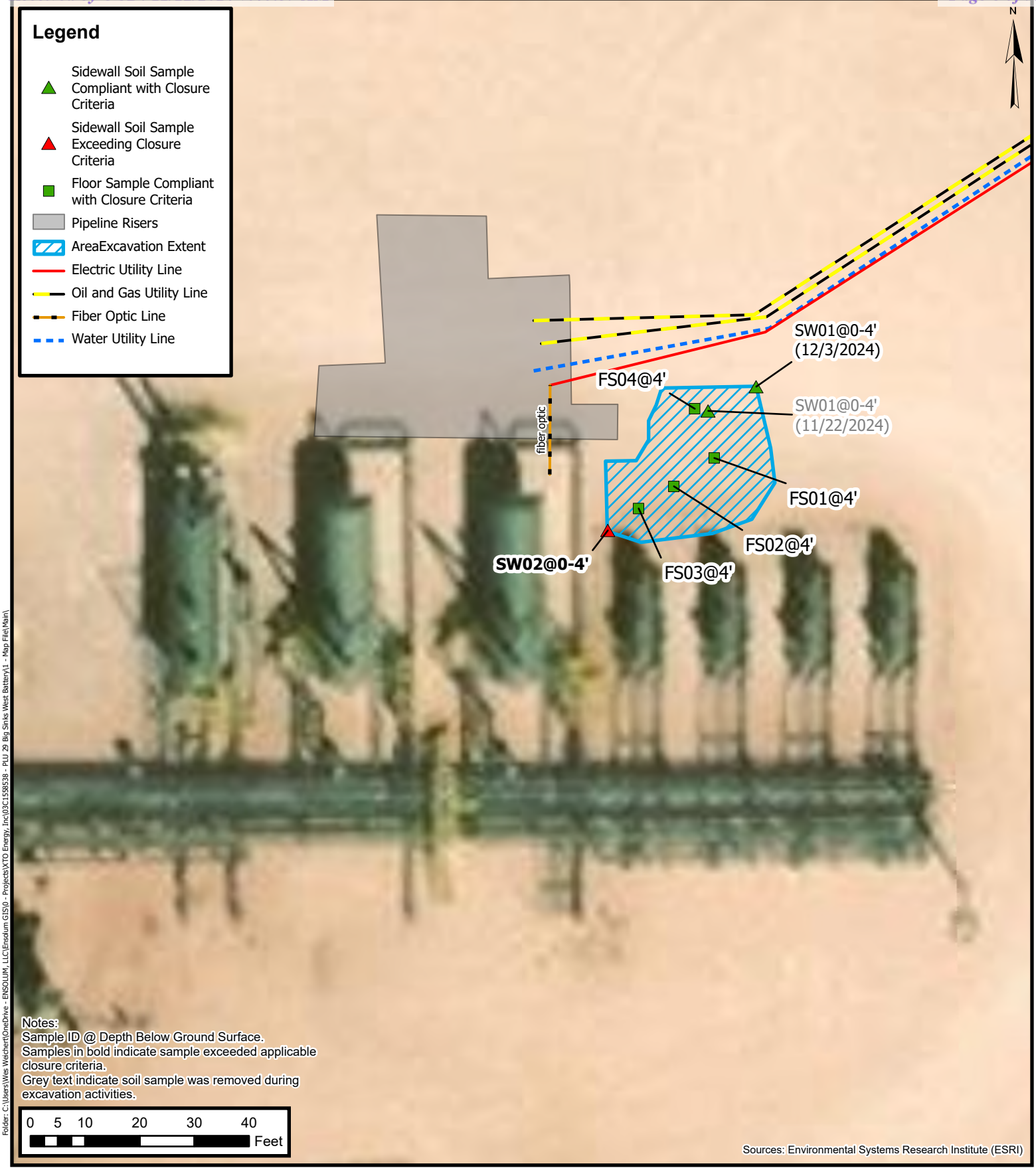
Delineation Soil Sample Locations

XTO Energy, Inc
PLU 29 BS West Battery
Incident Number: NAPP2425727179
Unit F, Sec 29, T25S, R31E
Eddy County, New Mexico

FIGURE 2



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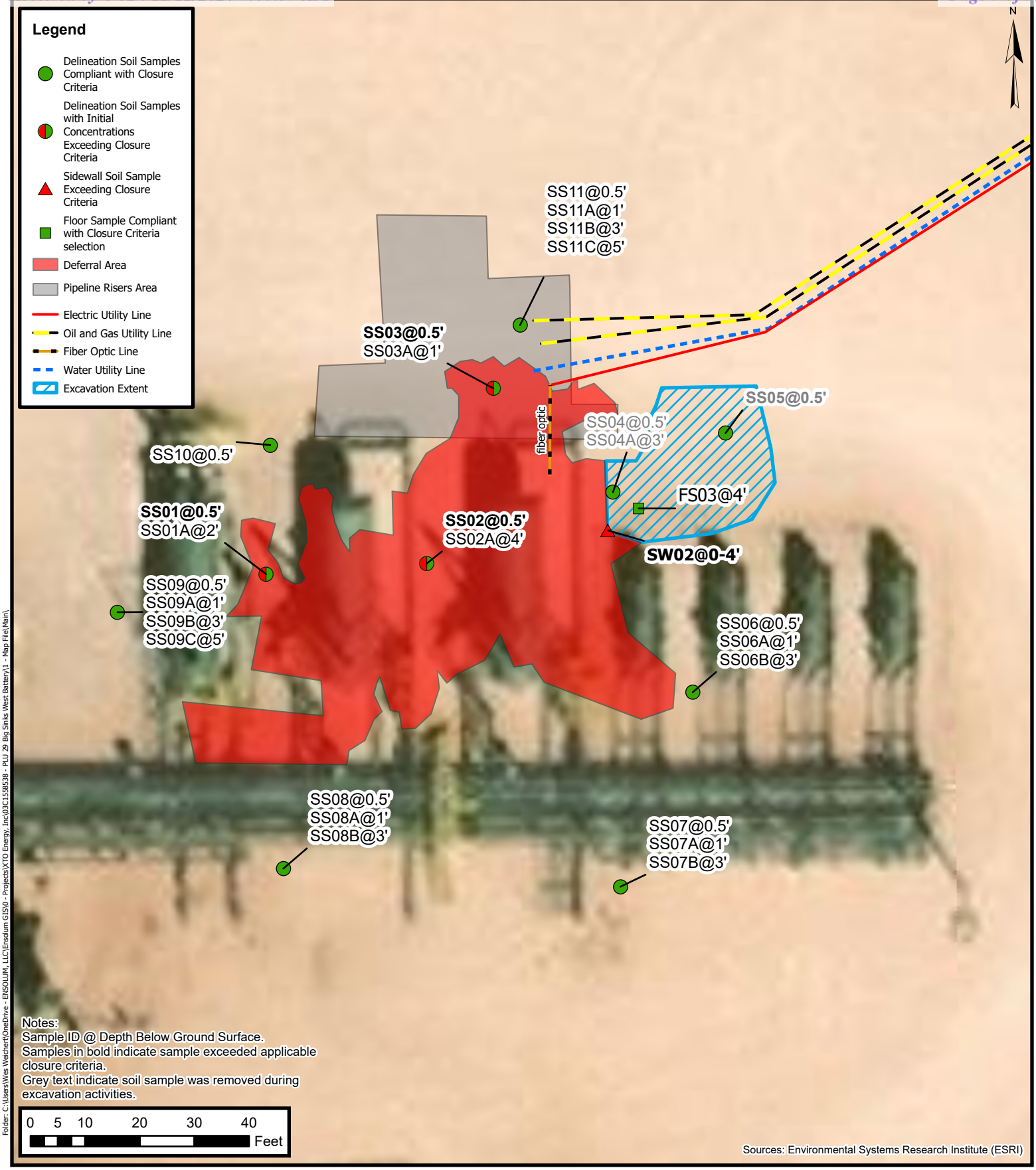
Excavation Soil Sample Locations

XTO Energy, Inc.
PLU 29 BS West Battery
Incident Number: NAPP2425727179
Unit F, Sec 29, T25S, R31E
Eddy Co, New Mexico, United States

FIGURE 3



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Deferral Area

XTO Energy, Inc.
PLU 29 BS West Battery
Incident Number: NAPP2425727179
Unit F, Sec 29, T25S, R31E
Eddy Co, New Mexico, United States

FIGURE 4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 29 Big Sinks West Battery
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Delineation Soil Samples										
SS01	09/27/2024	0.5	<0.100	25.1	752	13,900	1,660	**14,700**	**16,400**	**21,400**
SS01A	12/09/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS02	09/27/2024	0.5	<0.050	<0.300	<10.0	1,140	148	**1,140**	1,290	**19,200**
SS02A	12/09/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS03	09/27/2024	0.5	<0.050	26.2	910	22,200	2,800	**23,100**	**25,900**	**32,800**
SS03A	12/09/2024	1	<0.050	<0.300	<10.0	22.5	<10.0	22.5	22.5	96
~~SS04~~	~~09/27/2024~~	~~0.5~~	~~<0.050~~	~~<0.300~~	~~<10.0~~	~~10~~	~~<10.0~~	~~10~~	~~10~~	~~944~~
~~SS04A~~	~~11/22/2024~~	~~3~~	~~<0.050~~	~~<0.300~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~96~~
~~SS05~~	~~09/27/2024~~	~~0.5~~	~~<0.050~~	~~4.54~~	~~183~~	~~9,170~~	~~1,200~~	~~**9,350**~~	~~**10,600**~~	~~**31,200**~~
SS06	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SS06A	12/09/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SS06B	12/09/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16
SS07	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SS07A	12/09/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SS07B	12/09/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS08	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS08A	12/09/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SS08B	12/09/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS09	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SS09A	12/03/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SS09B	12/03/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS09C	12/03/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS10	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SS11	11/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SS11A	12/03/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS11B	12/03/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS11C	12/03/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
Confirmation Soil Samples										
FS01	11/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS02	11/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS03	11/22/2024	4	<0.050	<0.300	<10.0	14.0	<10.0	14.0	14.0	832

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 29 Big Sinks West Battery
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
FS04	12/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
~~SW01~~	~~11/22/2024~~	~~0-4~~	~~<0.050~~	~~3.04~~	~~74.7~~	~~476~~	~~31.3~~	~~550.7~~	~~582~~	~~384~~
SW01	12/03/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SW02	11/22/2024	0-4	<0.050	1.03	31	984	109	**1,015**	1,124	2,120

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

OSE DII JUN 5 2024 PM1:30

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4826		C-4826-POD1

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

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3104 E. Greene Street	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	06	18.7344	N
	LONGITUDE	-103	48	04.230	W

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

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

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
5-29-24	5-29-24	55'	55'	N/A

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 0'

DATE STATIC MEASURED: 5-29-24

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

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	45	6"	PVC 2" SCH40	Thread	2"	SCH40	N/A
45	55	6"	PVC 2" SCH40	Thread	2"	SCH40	.02

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 *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None pulled and plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. C-4826	POD NO. 1	TRN NO. 758878	
LOCATION 25S.31E.29 421		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	10	10'	Brown sand with caliche	Y ✓ N	
10	30	20'	Tan fine sand with small rock	Y ✓ N	
30	55	25'	Tan fine sand	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
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				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: Dry hole

TOTAL ESTIMATED WELL YIELD (gpm): 0

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:

OCD OIL JUN 5 2024 PM1:30

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

Jason Maley

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:

Jason Maley — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

6/3/24 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

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

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APPENDIX B

Photographic Log

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Photographic Log
XTO Energy, Inc.
PLU 29 Big Sinks West Battery
Incident Number nAPP2425727179

Photograph: 1 Date: 9/27/2024
Description: Site assessment, release extent area.
View: West

Photograph: 2 Date: 9/27/2024
Description: Site assessment, release extent area.
View: South

Photograph: 3 Date: 11/21/2024
Description: Delineation activities, PH04.
View: Northeast

Photograph: 4 Date: 12/3/2024
Description: Final excavation extent.
View: Southwest

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 29 Big Sinks West Battery
Incident Number nAPP2425727179

Photograph: 5 Date: 12/3/2024
Description: Final excavation extent.
View: Northeast

Photograph: 6 Date: 12/9/2024
Description: Core drill delineation, SS03.
View: West

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

Sample Name: SS01	Date: 11/21/24
Site Name: Plu 29 Big Sinks West Battery	
Incident Number: nAPP2425727179	
Job Number:03C1558538	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Jesse Dorman	Method: Core drill
Coordinates: 32.104453, -103.801979	Hole Diameter: 6 "
	Total Depth: 2

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
D	<168	0.0	N	SS01	0.5	0	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	464	0.0	N		1	1	CCHE	1'-2', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N	SS01A	2	2	TD	Total depth @ 2 feet bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS02	Date: 12/9/2024	
Site Name: Plu 29 Big Sinks West Battery		
Incident Number: nAPP2425727179		
Job Number: 03C1558538		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman	Method: Core drill
Coordinates: 32.104457, -103.801886	Hole Diameter: 6 "	Total Depth: 4

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	2587	0.0	N	SS02	0.5			
D	582	0.0	N		1	1	CCHE	1'-4', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	2469	0.3	N		2	2		
D	515	0.0	N		3	3		
D	313	0.0	N	SS02A	4	4	TD	Total depth @ 4 feet bgs.
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS03	Date: 11/21/24	
Site Name: Plu 29 Big Sinks West Battery		
Incident Number: nAPP2425727179		
Job Number:03C1558538		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman	Method: Core drill
Coordinates: 32.105392, -103.801864	Hole Diameter: 6 "	Total Depth: 1

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	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	37251	0.0	N	SS03	0.5	0	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS03A	1	1	TD	Total depth @ 1 feet bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS04	Date: 11/22/2024	
Site Name: PLU 29 Big Sinks West Battery		
Incident Number: nAPP2425727179		
Job Number: 03C1558538		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman	Method: Backhoe
Coordinates: 32.104489, -103.801762	Hole Diameter: 2'	Total Depth: 3'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	313	0.0	N	SS04	0.5			
D	274.4	266.2	N		1	1	CCHE	1'-3', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	274.4	52.6	N		2	2		
D	<168	2.5	N	SS04A	3	3	TD	Total depth @ 3 feet bgs.
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS06	Date: 12/9/2024	
Site Name: PLU 29 Big Sinks West Battery		
Incident Number: nAPP2425727179		
Job Number: 03C1558538		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman	Method: Core Drill
Coordinates: 32.104402, -103.801730	Hole Diameter: 2"	Total Depth: 3'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS06	0.5			
D	162	0.0	N	SS06A	1	1	CCHE	1'-3', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N		2	2		
D	162	0.0	N	SS06B	3	3	TD	Total depth @ 3 feet bgs.
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS07	Date: 12/9/2024
Site Name: PLU 29 Big Sinks West Battery	
Incident Number: nAPP2425727179	
Job Number: 03C1558538	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Jesse Dorman	Method: Core Drill
Coordinates: 32.104291, -103.801774	Hole Diameter: 2"
	Total Depth: 3'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS07	0.5			
D	162	0.0	N	SS07A	1	1	CCHE	1'-3', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N		2	2		
D	162	0.0	N	SS07B	3	3	TD	Total depth @ 3 feet bgs.
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS08	Date: 12/9/2024
Site Name: PLU 29 Big Sinks West Battery	
Incident Number: nAPP2425727179	
Job Number: 03C1558538	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman / Method: Core Drill
Coordinates: 32.104302, -103.801974	Hole Diameter: 2" / Total Depth: 3'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS08	0.5			
D	162	0.0	N	SS08A	1	1	CCHE	1'-3', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N		2	2		
D	162	0.0	N	SS08B	3	3	TD	Total depth @ 3 feet bgs.
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS09	Date: 12/3/2024	
Site Name: PLU 29 Big Sinks West Battery		
Incident Number: nAPP2425727179		
Job Number: 03C1558538		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman	Method: Backhoe
Coordinates: 32.104435, -103.802070	Hole Diameter: 2"	Total Depth: 5'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS09	0.5			
D	162	0.0	N	SS09A	1	1	CCHE	1'-5', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N		2	2		
D	162	0.0	N	SS09B	3	3		
D			N		4	4		
D			N	SS09C	5	5	TD	Total depth @ 5 feet bgs.
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

Sample Name: SS11	Date: 12/3/2024
Site Name: PLU 29 Big Sinks West Battery	
Incident Number: nAPP2425727179	
Job Number: 03C1558538	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Jesse Dorman / Method: Backhoe
Coordinates: 32.105392, -103.801850	Hole Diameter: 2" / Total Depth: 5'

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	CCHE (fill)	0-1', CALICHE, dry, tan, abundant gravel, well graded, some surficial staining, no odor, fill.
D	162	0.0	N	SS11	0.5			
D	162	0.0	N	SS11A	1	1	CCHE	1'-5', CALICHE, dry, tan, some sand, well graded, no stain, no odor, indurated.
D	162	0.0	N		2	2		
D	162	0.0	N	SS11B	3	3		
D	162	0.0	N		4	4		
D	162	0.0	N	SS11C	5	5	TD	Total depth @ 5 feet bgs.
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

October 03, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/01/24 13:20.

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

Cardinal Laboratories is 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	O3C1558533	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 01 0.5' (H245947-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	10/03/2024	ND	2.11	106	2.00	3.66	
Toluene*	**1.53**	0.100	10/03/2024	ND	2.31	115	2.00	9.39	GC-NC1
Ethylbenzene*	**0.993**	0.100	10/03/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	**22.5**	0.300	10/03/2024	ND	7.56	126	6.00	11.6	
Total BTEX	**25.1**	0.600	10/03/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *121 %* *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	**21400**	16.0	10/02/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**752**	50.0	10/03/2024	ND	214	107	200	11.1	
DRO >C10-C28*	**13900**	50.0	10/03/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	**1660**	50.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane *63.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *261 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	O3C1558533	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 02 0.5' (H245947-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *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	**19200**	16.0	10/02/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	**1140**	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	**148**	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane *115 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *116 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	O3C1558533	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 03 0.5' (H245947-03)

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	10/03/2024	ND	2.11	106	2.00	3.66	
Toluene*	**1.02**	0.050	10/03/2024	ND	2.31	115	2.00	9.39	GC-NC1
Ethylbenzene*	**1.16**	0.050	10/03/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	**24.0**	0.150	10/03/2024	ND	7.56	126	6.00	11.6	
Total BTEX	**26.2**	0.300	10/03/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *160 %* *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	**32800**	16.0	10/02/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**910**	50.0	10/03/2024	ND	214	107	200	11.1	
DRO >C10-C28*	**22200**	50.0	10/03/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	**2800**	50.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane *207 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *481 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	O3C1558533	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 04 0.5' (H245947-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *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	**944**	16.0	10/02/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	**10.2**	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane *91.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.7 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	O3C1558533	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 05 0.5' (H245947-05)

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	10/03/2024	ND	2.11	106	2.00	3.66	
Toluene*	**0.223**	0.050	10/03/2024	ND	2.31	115	2.00	9.39	GC-NC1
Ethylbenzene*	**0.234**	0.050	10/03/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	**4.08**	0.150	10/03/2024	ND	7.56	126	6.00	11.6	
Total BTEX	**4.54**	0.300	10/03/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *137 %* *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	**31200**	16.0	10/02/2024	ND	416	104	400	3.77	

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*	**183**	10.0	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	**9170**	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	**1200**	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane *142 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *200 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
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
Project Manager: Ben Belill
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: 989-854-0852 Fax #:
Project #: ~~PLU 29 08C1558538~~ Project Owner:
Project Name: PLU 29 BS West Battery
Project Location:
Sampler Name: Sherele Brooks

BILL TO
P.O. #:
Company: XTO Energy
Attn: Amy Ruth
Address: 3104 E Green St
City: Carlsbad
State: NM Zip: 88220
Phone #: 575-887-7329
Fax #:

ANALYSIS REQUEST

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	BTEX	TPH	Chloride
H245947																		
1	SS01	0.5'	G	1			X					X		9/27/24	12:19	X	X	X
2	SS02	"	"	"			"					"		"	12:21	"	"	"
3	SS03	"	"	"			"					"		"	12:27	"	"	"
4	SS04	"	"	"			"					"		"	12:29	"	"	"
5	SS05	"	"	"			"					"		"	12:31	"	"	"
~~6~~	SR																	
10.1.24																		

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Sherele Brooks	Date: 9.27.24 Time: 15:16:48	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 10-1-24 Time: 1320	Received By: SRodriguez	All Results are emailed. Please provide Email address: bbelill@ensolum.com, kthomason@ensolum.com
			REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 1.3 Corrected Temp. °C 0.7
Sample Condition: Cool ~~Intact~~ Yes / Yes; No / No
CHECKED BY: (Initials) SR

Turnaround Time: ~~Standard~~ 48 hr Rush
Thermometer ID #113 #140
Correction Factor -0.5 °C -0.6
Bacteria (only) Sample Condition: Cool Intact Yes / Yes; No / 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

CARDINAL Laboratories

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

November 26, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/25/24 11:05.

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

Cardinal Laboratories is 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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	11/25/2024	Sampling Date:	11/21/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 04 A 3' (H247207-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	4.53	
Toluene*	<0.050	0.050	11/25/2024	ND	1.92	96.1	2.00	2.85	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	5.00	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	6.17	103	6.00	5.46	
Total BTEX	<0.300	0.300	11/25/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	220	110	200	1.70	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	203	101	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *88.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 06 .5' (H247207-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	4.53	
Toluene*	<0.050	0.050	11/25/2024	ND	1.92	96.1	2.00	2.85	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	5.00	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	6.17	103	6.00	5.46	
Total BTEX	<0.300	0.300	11/25/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	220	110	200	1.70	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	203	101	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *94.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.9 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 07 .5' (H247207-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	4.53	
Toluene*	<0.050	0.050	11/25/2024	ND	1.92	96.1	2.00	2.85	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	2.03	101	2.00	5.00	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	6.17	103	6.00	5.46	
Total BTEX	<0.300	0.300	11/25/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	220	110	200	1.70	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	203	101	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *95.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 08 .5' (H247207-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	220	110	200	1.70	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	203	101	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *95.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.3 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 09 .5' (H247207-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *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	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/26/2024	ND	220	110	200	1.70	
DRO >C10-C28*	<10.0	10.0	11/26/2024	ND	203	101	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	11/26/2024	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.2 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 10 .5' (H247207-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	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	**240**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

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

Surrogate: 1-Chlorooctadecane *103 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SS 11 .5' (H247207-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.0 %* *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	**32.0**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: FS 01 4' (H247207-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *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	**112**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *79.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.7 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: FS 02 4' (H247207-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	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	**496**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *98.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *103 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: FS 03 4' (H247207-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	
Total Xylenes*	<0.150	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	<0.300	0.300	11/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	**832**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	**14.0**	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *96.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *49.1-148*

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SW 01 0-4' (H247207-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	**0.169**	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	GC-NC1
Ethylbenzene*	**0.133**	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	GC-NC1
Total Xylenes*	**2.74**	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	**3.04**	0.300	11/25/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *115 %* *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	**384**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**74.7**	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	**476**	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	**31.3**	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

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

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

Received:	11/25/2024	Sampling Date:	11/22/2024
Reported:	11/26/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO - 32.104448-103.801842		

Sample ID: SW 02 0-4' (H247207-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2024	ND	1.96	98.0	2.00	6.65	
Toluene*	<0.050	0.050	11/25/2024	ND	1.84	92.0	2.00	0.583	
Ethylbenzene*	**0.052**	0.050	11/25/2024	ND	1.90	95.0	2.00	0.870	GC-NC1
Total Xylenes*	**0.956**	0.150	11/25/2024	ND	5.73	95.5	6.00	1.66	
Total BTEX	**1.03**	0.300	11/25/2024	ND					GC-NC1

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	**2120**	16.0	11/26/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**31.0**	10.0	11/25/2024	ND	195	97.5	200	0.244	
DRO >C10-C28*	**984**	10.0	11/25/2024	ND	190	95.0	200	0.288	
EXT DRO >C28-C36	**109**	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane *92.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.4 %* *49.1-148*

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

GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Ben Belill	**P.O. #:**
Address: 3122 National Parks Hwy	**Company:** XTO Energy Inc.
City: Carlsbad **State:** NM **Zip:** 88220	**Attn:** Colton Brown
Phone #: 989-854-0852 **Fax #:**	**Address:** 3104 E. Green St.
Project #: 03C1558538 **Project Owner:** XTO	**City:** Carlsbad
Project Name: PLU 29 Big Sinks West Battery	**State:** NM **Zip:** 88220
Project Location: 32.104448, -103.801842	**Phone #:**
Sampler Name: Jesse Dorman	**Fax #:**

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	CHLORIDE
H247207																		
1	SS04A	3'	G	1			X					X		11/21/24	1240	X	X	X
2	SS06	0.5'	G	1			X					X		11/21/24	1230			
3	SS07						X					X			1243			
4	SS08						X					X			1240			
5	SS09						X					X			1145			
6	SS10						X					X			1205			
7	SS11						X					X			1210			
8	FS01	4'	C	1			X					X			1435			
9	FS02		C				X					X			1440			
10	FS03		C				X					X			1445			

Relinquished By:	**Date:** 11-25-24 **Time:** 1105	**Received By:**	**Verbal Result:** ☐Yes ☑No **Add'l Phone #:**
Relinquished By:	**Date:** **Time:**	**Received By:**	**All Results are emailed. Please provide Email address:** Thillard@ensolum.com BBelilll@ensolum.com TMorrissey@ensolum.com, kthomason@ensolum.com
			REMARKS: Cost Center:1818831001 Incident ID: NAPP2425727179

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.5 Corrected Temp. °C 1.9	**Sample Condition** Cool ☑Yes ☐No Intact ☑Yes ☐No	**CHECKED BY: (Initials)**	**Turnaround Time:** ☐ Standard ☐ Rush 24hr **Thermometer ID** ~~#113~~ #140 **Correction Factor** -0.5°C **Bacteria (only) Sample Condition** Cool ☐Yes ☐No Intact ☐Yes ☐No **Observed Temp. °C** **Corrected Temp. °C**

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Ben Belill	**P.O. #:**
Address: 3122 National Parks Hwy	**Company:** XTO Energy Inc.
City: Carlsbad **State:** NM **Zip:** 88220	**Attn:** Colton Brown
Phone #: 989-854-0852 **Fax #:**	**Address:** 3104 E. Green St.
Project #: 03C1558538 **Project Owner:** XTO	**City:** Carlsbad
Project Name: PLU 29 Big Sinks West Battery	**State:** NM **Zip:** 88220
Project Location: 32.104448, -103.801842	**Phone #:**
Sampler Name: Jesse Dorman	**Fax #:**

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	CHLORIDE
H247207																		
11	SW01	0-4'	C	1			✓					✓		11/22/24	1535	✓	✓	✓
12	SW02	↓	C	1			✓					✓		↓	1540	✓	✓	✓
	XT																	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	**Date:** 11.25.24 **Time:** 1105	**Received By:** Tamara Oldaker	**Verbal Result:** ☐Yes ☑No **Add'l Phone #:**
			All Results are emailed. Please provide Email address: Thillard@ensolum.com BBelilll@ensolum.com TMorrissey@ensolum.com, kthomason@ensolum.com
Relinquished By:	**Date:** **Time:**	**Received By:**	**REMARKS:** Cost Center:1818831001 Incident ID: NAPP2425727179
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	**Observed Temp. °C** 25 **Corrected Temp. °C** 1.9	**Sample Condition** Cool ☑Yes ☐No Intact ☑Yes ☐No	**CHECKED BY: (Initials)**
			Turnaround Time: Standard ☐ Rush ☑ **Thermometer ID** #140 **Correction Factor** -0.5°C TO: 24hr 11/25/24
			Bacteria (only) Sample Condition Cool ☐Yes ☐No Intact ☐Yes ☐No **Observed Temp. °C** **Corrected Temp. °C**

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CARDINAL Laboratories

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

December 05, 2024

BEN BELILL

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/04/24 10:30.

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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SW 01 0-4' (H247372-01)

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	12/04/2024	ND	2.11	105	2.00	5.89	
Toluene*	<0.050	0.050	12/04/2024	ND	2.03	102	2.00	6.13	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.05	102	2.00	6.04	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.12	102	6.00	6.14	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	12/04/2024	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	12/04/2024	ND	231	116	200	0.517	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	213	107	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *99.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.5 %* *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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: FS 04 4' (H247372-02)

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	12/04/2024	ND	2.11	105	2.00	5.89	
Toluene*	<0.050	0.050	12/04/2024	ND	2.03	102	2.00	6.13	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.05	102	2.00	6.04	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.12	102	6.00	6.14	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.2 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *119 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *106 %* *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

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy
City: Midland State: TX Zip:	Attn: Colton Brown
Phone #: 989-854-0852 Email: bbelill@ensolum.com	Address: 3104 E. Green St.
Project #: 03C1558538 Project Owner:	City: Carlsbad
Project Name: PLU 29 Big Sinks West Battery	State: NM Zip: 88220
Project Location: 32.104448, -103.801842	Phone #: 575-988-2390
Sampler Name: Mario Sarkis	Email:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample 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: BTEX	TPH	Chloride
H247372																		
1	SW01	0 - 4	C	1			X					X		12/3/2024	1238	X	X	X
2	FS04	4	C	1			X					X		12/3/2024	1253	X	X	X

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Relinquished By:	Date: 12/4/24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1030		All Results are emailed. Please provide Email address: bbelill@ensolum.com / kthompson@ensolum.com / msarkis@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS: Incident #: nAPP2425727179 Cost Center: 1818831001
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.7 Corrected Temp. °C 0.1	Sample Condition Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No	CHECKED BY: (Initials) AD	Turnaround Time: Standard ☐ Rush ☑ Bacteria (only) Sample Condition Cool Intact Observed Temp. °C AD 12.4.24 24-hr Thermometer ID #113 / #140 Correction Factor -0.6°C -0.6 ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

December 05, 2024

BEN BELILL

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/04/24 10:30.

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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 11 A 1' (H247373-01)

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	12/04/2024	ND	2.11	105	2.00	5.89	
Toluene*	<0.050	0.050	12/04/2024	ND	2.03	102	2.00	6.13	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.05	102	2.00	6.04	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.12	102	6.00	6.14	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *108 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.8 %* *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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 11 B 3' (H247373-02)

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	12/04/2024	ND	2.11	105	2.00	5.89	
Toluene*	<0.050	0.050	12/04/2024	ND	2.03	102	2.00	6.13	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.05	102	2.00	6.04	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.12	102	6.00	6.14	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *110 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 11 C 5' (H247373-03)

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	12/04/2024	ND	2.11	105	2.00	5.89	
Toluene*	<0.050	0.050	12/04/2024	ND	2.03	102	2.00	6.13	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.05	102	2.00	6.04	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.12	102	6.00	6.14	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *93.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *79.9 %* *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

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	BILL TO
Project Manager: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy
City: Midland State: TX Zip:	Attn: Colton Brown
Phone #: 989-854-0852 Email: bbelill@ensolum.com	Address: 3104 E. Green St.
Project #: 03C1558538 Project Owner:	City: Carlsbad
Project Name: PLU 29 Big Sinks West Battery	State: NM Zip: 88220
Project Location: 32.104448, -103.801842	Phone #: 575-988-2390
Sampler Name: Mario Sarkis	Email:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample 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: BTEX	TPH	Chloride
H247373																		
1	SS11A	1	G	1			X					X		12/3/2024	1251	X	X	X
2	SS11B	3	G	1			X					X		12/3/2024	1309	X	X	X
3	SS11C	5	G	1			X					X		12/3/2024	1315	X	X	X

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:	Date: 12/4/24	Received By:	Verbal Result: ☐ Yes ☐ No
	Time: 1030		All Results are emailed. Please provide Email address: bbelill@ensolum.com / kthompson@ensolum.com / msarkis@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS: Incident #: nAPP2425727179 Cost Center: 1818831001
	Time:		

Add'l Phone #:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Observed Temp. °C 0.7 Corrected Temp. °C 0.1

Sample Condition: Cool ☑ Yes Intact ☑ Yes

CHECKED BY: (Initials) AD

Turnaround Time: Standard ☐ Rush ☑ 24-hr

Bacteria (only) Sample Condition: Cool Intact

Observed Temp. °C

Thermometer ID #113 Correction Factor -0.6°C -0.6

Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

December 05, 2024

BEN BELILL

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/04/24 10:30.

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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 09 A 1' (H247374-01)

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	12/04/2024	ND	2.20	110	2.00	0.106	
Toluene*	<0.050	0.050	12/04/2024	ND	2.28	114	2.00	0.470	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.23	112	2.00	0.491	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.97	116	6.00	0.215	
Total BTEX	<0.300	0.300	12/04/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

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

Surrogate: 1-Chlorooctadecane *92.5 %* *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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 09 B 3' (H247374-02)

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	12/04/2024	ND	2.20	110	2.00	0.106	
Toluene*	<0.050	0.050	12/04/2024	ND	2.28	114	2.00	0.470	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.23	112	2.00	0.491	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.97	116	6.00	0.215	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.8 %* *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
BEN BELILL
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	12/04/2024	Sampling Date:	12/03/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 09 C 5' (H247374-03)

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	12/04/2024	ND	2.20	110	2.00	0.106	
Toluene*	<0.050	0.050	12/04/2024	ND	2.28	114	2.00	0.470	
Ethylbenzene*	<0.050	0.050	12/04/2024	ND	2.23	112	2.00	0.491	
Total Xylenes*	<0.150	0.150	12/04/2024	ND	6.97	116	6.00	0.215	
Total BTEX	<0.300	0.300	12/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/04/2024	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	12/04/2024	ND	213	107	200	5.36	
DRO >C10-C28*	<10.0	10.0	12/04/2024	ND	211	105	200	6.95	
EXT DRO >C28-C36	<10.0	10.0	12/04/2024	ND					

Surrogate: 1-Chlorooctane *110 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.7 %* *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

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy
City: Midland State: TX Zip:	Attn: Colton Brown
Phone #: 989-854-0852 Email: bbelill@ensolum.com	Address: 3104 E. Green St.
Project #: 03C1558538 Project Owner:	City: Carlsbad
Project Name: PLU 29 Big Sinks West Battery	State: NM Zip: 88220
Project Location: 32.104448, -103.801842	Phone #: 575-988-2390
Sampler Name: Mario Sarkis	Email:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	Chloride
†1247374																		
1	SS09A	1	G	1			X					X		12/3/2024	1332	X	X	X
2	SS09B	3	G	1			X					X		12/3/2024	1338	X	X	X
3	SS09C	5	G	1			X					X		12/3/2024	1350	X	X	X

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:	Date: 12/4/24 Time: 1030	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: bbelill@ensolum.com / kthompson@ensolum.com / msarkis@ensolum.com
Relinquished By:	Date: Time:	Received By:	REMARKS: Incident #: nAPP2425727179 Cost Center: 1818831001

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.7 Corrected Temp. °C 0.1	Sample Condition Cool Intact ☐ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials) AP	Turnaround Time: Standard ☐ Rush ☑ Bacteria (only) Sample Condition Cool Intact Observed Temp. °C 12.4.24 Thermometer ID #113 #140 24-hr Correction Factor -0.8°C -0.6 ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

December 11, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/10/24 14:00.

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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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 03A 1' (H247472-01)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.0 %* *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	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	**22.5**	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *104 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 02A 4' (H247472-02)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.9 %* *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	**208**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

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

Surrogate: 1-Chlorooctadecane *105 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 01A 2' (H247472-03)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.8 %* *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	**208**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 06A 1' (H247472-04)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.3 %* *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	**48.0**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

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

Surrogate: 1-Chlorooctadecane *105 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 06B 3' (H247472-05)

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	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *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	**16.0**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

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

Surrogate: 1-Chlorooctadecane *105 %* *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

QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Ensolum, LLC
Project Manager:	Ben Belill
Address:	3122 National Parks Hwy
City:	Carlsbad **State:** NM **Zip:** 88220
Phone #:	989-854-0852 **Fax #:**
Project #:	03C1558538 **Project Owner:** XTO
Project Name:	PLU 29 Big Sinks West Battery
Project Location:	32.104448, -103.801842
Sampler Name:	Jesse Dorman

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	CHLORIDE
H247472																		
1	SS03A	1'	G	1			X					X		12/9/24	1035			
2	SS02A	4'													1430			
3	SS01A	2'													1525			
4	SS06A	1'													1558			
5	SS06B	3'													1625			
	JD																	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	**Date:** 12-10-24	**Received By:**	Verbal Result: ☐Yes ☑No Add'l Phone #:
	Time: 1400		All Results are emailed. Please provide Email address: Thillard@ensolum.com
Relinquished By:	**Date:**	**Received By:**	BBelilll@ensolum.com TMorrissey@ensolum.com, kthomason@ensolum.com
	Time:		**REMARKS:** Cost Center:1818831001 Incident ID: NAPP2425727179

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C -0.3	Sample Condition Cool ☑Yes ☐No Intact ☐Yes ☐No	CHECKED BY: (Initials)

Turnaround Time: Standard ☐ Rush ☑ 24 hr to: 12/10/24

Thermometer ID #140 #113 Correction Factor -0.5°C

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

CARDINAL Laboratories

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

December 11, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 29 BIG SINKS WEST BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/10/24 13:15.

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

Received:	12/10/2024	Sampling Date:	12/10/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 08A 1' (H247482-01)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	12/11/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	216	108	200	0.482	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	211	105	200	0.802	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *113 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *126 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/10/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 08B 3' (H247482-02)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.6 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/11/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	216	108	200	0.482	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	211	105	200	0.802	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *109 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *121 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/10/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 07A 1' (H247482-03)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	12/11/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	216	108	200	0.482	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	211	105	200	0.802	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *111 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *123 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/10/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU 29 BIG SINKS WEST BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558538	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.104448-103.801842		

Sample ID: SS 07B 3' (H247482-04)

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	12/10/2024	ND	1.63	81.7	2.00	16.0	
Toluene*	<0.050	0.050	12/10/2024	ND	1.74	86.9	2.00	3.19	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	1.74	87.1	2.00	0.916	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	5.21	86.9	6.00	0.380	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.4 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/11/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	216	108	200	0.482	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	211	105	200	0.802	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *113 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *126 %* *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

QR-04	The RPD for the BS/BSD was outside of historical limits.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Ensolum, LLC
Project Manager:	Ben Belill
Address:	3122 National Parks Hwy
City:	Carlsbad **State:** NM **Zip:** 88220
Phone #:	989-854-0852 **Fax #:**
Project #:	03C1558538 **Project Owner:** XTO
Project Name:	PLU 29 Big Sinks West Battery
Project Location:	32.104448, -103.801842
Sampler Name:	Jesse Dorman

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	CHLORIDE
H247482																		
1	SS08A	1	G	1			X					X		12/10/24	904	✓	✓	✓
2	SS08B	3													940			
3	SS07A	1													1009			
4	SS07B	3													1050			

Relinquished By:	**Date:** 12-10-24	**Received By:**	
	Time: 1315		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

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

All Results are emailed. Please provide Email address: Thillard@ensolum.com BBelilll@ensolum.com TMorrissey@ensolum.com, kthomason@ensolum.com

REMARKS: Cost Center:1818831001 Incident ID: NAPP2425727179

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.0 Corrected Temp. °C 2.4	**Sample Condition** Cool: ☑Yes ☐No Intact: ☐Yes ☑No	**CHECKED BY: (Initials)** TO	**Turnaround Time:** ☐ Standard ☑ Rush 24hr
				Thermometer ID ~~#113~~ #140 **Correction Factor** -0.5°C
				Bacteria (only) Sample Condition Cool: ☐Yes ☐No Intact: ☐Yes ☐No **Observed Temp. °C** **Corrected Temp. °C**

T.O. 12/10/24

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

QUESTIONS

Action 410946

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 410946
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2425727179**
Incident Name	**NAPP2425727179 PLU 29 BS WEST BATTERY @ 30-015-45919**
Incident Type	**Other**
Incident Status	**Deferral Request Received**
Incident Well	**[30-015-45919] POKER LAKE UNIT 29 BS #703H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU 29 BS WEST BATTERY
Date Release Discovered	09/12/2024
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Other
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: Corrosion | Separator | Crude Oil | Released: 15 BBL | Recovered: 7 BBL | Lost: 8 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion | Separator | Produced Water | Released: 15 BBL | Recovered: 7 BBL | Lost: 8 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
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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response	
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/12/2024

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QUESTIONS (continued)

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	Action Number: 410946
	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 51 and 75 (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)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	32800
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	25900
GRO+DRO	(EPA SW-846 Method 8015M)	23100
BTEX	(EPA SW-846 Method 8021B or 8260B)	26.2
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		09/27/2024
On what date will (or did) the final sampling or liner inspection occur		12/09/2024
On what date will (or was) the remediation complete(d)		12/09/2024
What is the estimated surface area (in square feet) that will be reclaimed		3964
What is the estimated volume (in cubic yards) that will be reclaimed		480
What is the estimated surface area (in square feet) that will be remediated		671
What is the estimated volume (in cubic yards) that will be remediated		100
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: 410946
	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	OWL LANDFILL JAL [fJEG1635837366]
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/12/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the 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: 410946
	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	"process piping, production equipment, pipe/equipment supports. Removing would result in undermining active piping and production equipment causing an additonal release of fluids. "
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	3293
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	380
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	PLU 29 BIG SINKS WEST BTY [fAPP2126356155]
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/12/2024

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QUESTIONS (continued)

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	Action Number: 410946
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**408614**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**12/13/2024**
What was the (estimated) number of samples that were to be gathered	**20**
What was the sampling surface area in square feet	**4000**

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

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CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 410946
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Deferral is approved. Remediation Due date will be left open until the site has been plugged and abandoned or a major facility deconstruction takes place.	3/17/2025