



June 4, 2026

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan
PLU PB 04-26-31 USA Battery
Incident Number nAPP2435351259
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc (XTO), has prepared this *Remediation Work Plan (Work Plan)* to document the findings of a liner integrity inspection and delineation activities conducted at the PLU PB 04-26-31 USA Battery (Site) following a release of produced water within a 1,205 square foot, steel walled lined containment. The containment houses vertical separator equipment and production piping. Based on the field observations and soil sample laboratory analytical results, XTO is submitting this *Work Plan*, describing the inspection results and delineation activities, and proposing excavation of impacted soil underneath the lined containment for Incident Number nAPP2435351259.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit N, Section 04, Township 26 South, Range 31 East, in Eddy County, New Mexico (32.065651°, -103.784361°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On December 14, 2024, internal corrosion of the separator resulted in the release of approximately 10 barrels (bbls) of produced water into an impermeable secondary containment. A vacuum truck was dispatched to the Site to recover free-standing fluids and all fluids were recovered. The lined containment was power washed to remove any residual fluids. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via a Notification of Release (NOR) and submitted an Initial C-141 Application (C-141) on December 18, 2024. The release was assigned Incident Number nAPP2435351259.

On December 24, 2025, a *Deferral Request* was submitted to the NMOCD documenting liner integrity inspection and delineation activities. On February 4, 2026, the NMOCD denied the request for the following reasons:

Deferral denied for the following reasons: 1) This site is located in a medium karst potential occurrence zone and OCD has recently reevaluated karst potential zones and will not approve deferrals in these areas as medium karst may cause an imminent risk to groundwater. The

XTO Energy, Inc
Remediation Work Plan
PLU PB 04-26-31 USA Battery

operator may choose to have karst surveys performed by a BLM approved karst/cave contractor, in order to determine if karst features are present at the site. A desktop survey, aerial/pedestrian survey, AND a geophysical survey must be performed. If no karst features are located during any of the surveys AND the geophysical survey shows no other indications of unstable ground, the closure criteria can be based on Table I Closure criteria found in 19.15.29 NMAC. Sites located on BLM or State Land Office (SLO) owned surface will need surface owner approval. A certified civil engineer will need to evaluate the soil type and provide the minimum distance the excavation(s) needs to be from the equipment and how deep the excavation(s) can be prior to requesting a deferral. This document must be stamped by the engineer. 2) According to the Chain of Custody for lab samples BH01 and BH01A, samples were collected at .5' and 2' depths. Referring to Table I, sample depths were .5' and 1'. Update report to reflect correct depth. Submit updated deferral request or remediation closure report to the OCD by 5/5/2026.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is a United States Geological Survey (USGS) well 320330103462501, located approximately 0.76 miles southeast of the Site. The most recently reported depth to groundwater measurement in the well was collected on February 18, 1959, and documented as 287 feet bgs. The total depth of the well is 338 feet bgs. A New Mexico Office of State Engineer (OSE) permitted water well, C-03623, located 0.66 miles to the northwest was never drilled per the OSE permit. To the east of the Site, there are four OSE permitted water declarations permitted as LWD-01205, LWD-01206, LWD-01186, and LWD-01187. Based on a review of the available permits, these are livestock watering dam or tank declarations and were not considered as water wells but considered as surface water features. The referenced well records and permits are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash located approximately 9,569 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is mapped within a medium potential karst designation area. Southwest Geophysical Consulting, a BLM-approved third-party cave/karst contractor, conducted a desktop survey, aerial/pedestrian survey, and a geophysical survey of the Site. In summary, no surface karst features within the 200-foot survey area surrounding the release extent were identified in the desktop or surface karst surveys. Results of the geophysical study indicated a well-layered geologic system is present beneath the Site with no anomalies in the data that would be consistent with air-filled subsurface voids or a pathway to groundwater, confirming the absence of karst below the Site. The karst survey results are included in Appendix B. Potential Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, and the NMOCD's preference for groundwater data within half a mile of the Site and within the last 25 years, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

LINER INTEGRITY INSPECTION ACTIVITIES

A 48-hour advanced notice of the liner inspection was submitted to the NMOCD on October 9, 2025. The lined containment was cleaned of all debris and power washed and a liner integrity inspection was conducted by Ensolum personnel on October 14, 2025. The lined containment was inspected, and it was determined to contain two small holes within approximately 18 inches of each other. The holes were observed in the floor of the lined containment near surface piping and the vertical separator on the central portion of the lined containment. No peeling or damage was observed to the walls of the lined containment. Delineation to determine the presence or absence of impacts to soil beneath the holes was warranted. A Site map of the lined containment is included in Figure 2. Photographic documentation of the inspection is included in Appendix C.

DELINEATION SOIL SAMPLING ACTIVITIES

On October 22 and 31, 2025, Ensolum personnel were at the Site to oversee delineation sampling activities. Four delineation soil samples (SS01 through SS04) were collected around the lined containment from ground surface to confirm the release remained within the lined containment walls. One borehole (BH01) was advanced via hand auger to a terminal depth of 2 feet bgs in the location of the holes in the liner. Discrete soil samples were collected from the borehole at depths ranging from 0.5 feet and 2 feet bgs. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Field screening results and observations of the soil samples from the borehole were logged on a lithologic/soil sampling log, which is included in Appendix D. The delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix C.

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, or Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500 or EPA method 300.0.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 through SS04 indicated all COCs were in compliance with Site Closure Criteria, confirming the release did not breach the steel walls of the lined containment. Laboratory analytical results for delineation soil samples from borehole BH01 indicated



XTO Energy, Inc
Remediation Work Plan
PLU PB 04-26-31 USA Battery

chloride concentrations exceeded Site Closure Criteria at 0.5 feet bgs but all COC concentrations were in compliance with Site Closure Criteria at 2 feet bgs, successfully defining the vertical extent of impacts beneath the liner. Laboratory analytical results are summarized in Table 1, and the laboratory analytical reports are included in Appendix E.

PROPOSED REMEDIATION

XTO is in the process of deconstructing the lined containment. Delineation soil sampling results indicate soil containing elevated chloride concentrations exists across an approximate 1,205 square foot area beneath the footprint of the lined containment and extends to a maximum depth of 2 feet bgs. XTO proposes completing the following remediation activities:

- Excavation of impacted soil to a depth of 2 feet bgs. Excavation will proceed laterally until sidewall samples confirm all COC concentrations are compliant with the strictest Table I Closure Criteria.
- An estimated 90 cubic yards of impacted soil will be excavated. The excavated soil will be transferred a New Mexico approved landfill facility for disposal.
- Following excavation and a review of confirmation soil sampling results indicating all impacted soil has been removed, the excavation will be backfilled and recontoured to match pre-existing conditions.

XTO does not believe the *Work Plan* will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 100 feet bgs, the absence of karst features were confirmed by the geophysical survey, and the impacted soil remaining in place is limited in aerial and vertical extent.

XTO will proceed with the excavation and soil sampling activities and will submit a Closure Report within 90 days of the date of approval of this Work Plan by the NMOCD.

XTO Energy, Inc
Remediation Work Plan
PLU PB 04-26-31 USA Battery

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

Sincerely,
Ensolum, LLC



Jeremy Reich
Project Geologist



Tacoma Morrissey, P.G. (licensed in TX)
Associate Principal

Cc: Robert Woodall, XTO
Richard Kotzur, XTO
BLM

Appendices:

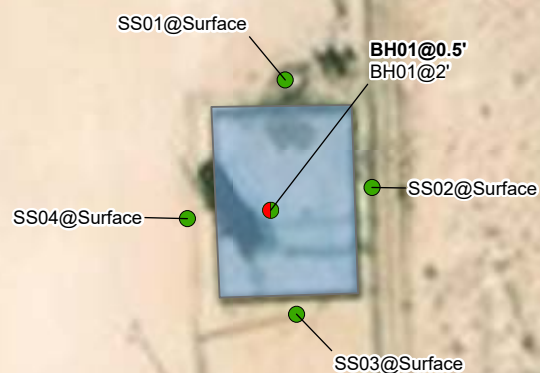
Figure 1	Site Receptor Map
Figure 2	Site Map
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Environmental Karst Study Report
Appendix C	Photographic Log
Appendix D	Lithologic Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix F	NMOCD Correspondence



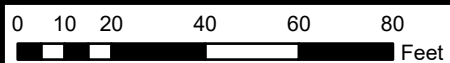
FIGURES

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Lined Containment



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable Closure Criteria.



Sources: Environmental Systems Research Institute (ESRI)



Site Map

XTO Energy, Inc.
 PLU PB 04-26-31 USA Battery
 Incident Number: nAPP2435351259
 Unit N, Section 04, T 26S, R 31E
 Eddy County, New Mexico

FIGURE
2



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU PB 04-26-31 USA 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	NE	100	600
Delineation Soil Samples										
SS01	10/22/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
SS02	10/22/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS03	10/22/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS04	10/22/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
BH01	10/31/2025	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	803
BH01A	10/31/2025	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	460

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

Referenced Well Records



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category: Geographic Area:

Click to hideNews Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.

Groundwater levels for the Nation

 Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320329103462501

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320329103462501 26S.31E.08.321433

Eddy County, New Mexico

Latitude 32°03'29", Longitude 103°46'25" NAD27

Land-surface elevation 3,250 feet above NAVD88

The depth of the well is 326 feet below land surface.

This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1949-03-10			D	62610	2969.91	NGVD29	1	Z			A
1949-03-10			D	62611	2971.55	NAVD88	1	Z			A
1949-03-10			D	72019	278.45		1	Z			A
1958-08-18			D	62610	2973.60	NGVD29	1	Z			A
1958-08-18			D	62611	2975.24	NAVD88	1	Z			A
1958-08-18			D	72019	274.76		1	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions or Comments](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[Accessibility](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: USGS Water Data Support Team

Page Last Modified: 2025-09-09 17:19:29 EDT

0.37 0.3 nadww01

Renbid: LWD-1187
631011

STATE ENGINEER OFFICE

DECLARATION OF OWNERSHIP OF LIVESTOCK WATER DAM OR TANK
(Note: Read Instructions on Back of Form)

Date of Receipt March 16, 1992 Declaration No. LWD-C-6

1. Name of Declarant BUCK & LARUE JACKSON Post Office BOX 671 PECOS TEXAS
County of EDDY State of NEW MEXICO

2. Dam or tank is located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE of
Section 10, Township 26S, Range 31E, on _____,
a tributary of PECOS RIVER, and is on FEDERAL
(State, Federal, Declarants)
property.
Water is stored for STOCK WATER, POTENTIAL IRRIGATION purposes.
(stock water, if other uses so state)
Topography of drainage basin, UNDULATING
(steep, rough, rolling, undulating, flat)
Approximate area of drainage basin above dam is square miles 1
Vegetative cover of drainage basin, GRASS, SHRUBS
(forest, woodland, shrubs, grass, bare)
Is watercourse normally dry, YES
(yes or no)

3. Approximate physical properties of storage dam: height of dam above streambed,
or natural ground 10 feet; height of spillway flowline above stream-
bed, or natural ground N/A feet; length of top of dam, 420 feet;
width of crest, 30 feet; slope of upstream face, 4 horizontal
to 1.0 vertical; slope of downward face, 2 horizontal to 1.0
vertical; nature of riprap or other protection placed over water face of dam,
N/A
Give type, size and maximum discharge of outlet pipe, if any, and type of gate
used (if none say none). NONE
Maximum water surface area 2 acres; storage capacity 7.8
acre feet; dam contains approximately 3002 cubic yards of earth.

4. Approximate physical properties of spillway; bottom width N/A feet; maximum
depth of flow N/A feet; discharge capacity N/A cubic feet per second;
spillway is located in GRASSED EARTH
(rock, shale, clay, grassed earth, bare earth, etc)

5. Dam or tank was constructed under the supervision of DECLARANT
(name agency, declarant
or engineer) and was completed in 1964
(give date)
Name of contractor that built dam UNKNOWN

6. Additional information THIS TANK WAS CONSTRUCTED TO FACILITATE STORAGE
IN A NATURAL LAKE BED THAT PROVIDED WATER TO DOMESTIC LIVESTOCK PRIOR
TO 1907.

UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM.
ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

DECLARANT'S CERTIFICATE

I hereby certify that I have read the foregoing statements and know the contents thereof and representations thereon, and that the same are true to the best of my knowledge and belief.

3-9-92
Date

La Lee Jackson
Declarant

Subscribed and sworn to before me this 24 day of MARCH, 1992

4-12-93
My Commission Expires

SUE RICHMOND
Notary Public, State of Texas
My Commission Expires 4/12/93

Sue Richmond
Notary Public

INSTRUCTIONS

This Declaration shall be executed in triplicate and shall be accompanied by a \$1.00 filing fee and submitted to the nearest district office of State Engineer. (Offices are located in Santa Fe, Albuquerque, Roswell and Deming, New Mexico.)

All blanks should be completed as accurately as possible and if figures are estimated add the word "estimated" next to the value. Should any item requested be unknown so state on the form.

If tank or dam is filled by a diversion ditch or well, explain under Item 6 giving the known information on the ditch or well.

Should the dam or tank being declared have been constructed to replace an older structure so note under Item 6 giving the known information on original. (Information needed is location with respect to present structure, its capacity and date of completion.)

if the space on form is not adequate, attach supplemental sheets to form.

If possible, Declaration should also be accompanied by affidavits of persons who have first hand knowledge of the history of the works or by other evidence sufficient to substantiate the claim.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 14, 1992

FILE: LWD-C-3 thru LWD-C-11
LWD-C-13 thru LWD-C-16
C-2248 thru C-2250

Buck and Larue Jackson
Box 671
Pecos, TX 79772

Dear Mr. and Mrs. Jackson:

Enclosed are copies of "Investigative Reports" prepared for use by the State Engineer Office in conjunction with the Declarations of Ownership of Livestock Water Dam or Tank and Declarations of Owner of Underground Water Right which you recently filed.

If you have any questions about these reports or feel that you have additional information available which might clarify certain points, please contact either Craig Hipple or me.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosures
cc: Santa Fe
Hydro Section

INVESTIGATIVE REPORT

DATE: April 13, 1992

TO: LWD-C-6

FROM: Mike Stapleton, Water Resource Technician II

SUBJECT: Livestock Watering Dam - LWD-C-6

WELL:	<u>SUBDIVISION</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>ACRES</u>
	SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$	10	26S	31E	

LAND:

USE: Livestock Watering

STATEMENTS: Field investigation conducted April 6, 1992, revealed that LWD-C-6 is at the above declared location. This LWD is not shown on the Phantom Banks Quadrangle Map. It is holding water and in use for livestock watering.

SUMMARY: Taking into account the field investigation of April 6, 1992, it appears that this LWD is little more than an excavated pit tank and has very little potential for irrigation use considering that it is filled by rainfall.



Mike Stapleton
Water Resource Technician II

MS/tg
cc: Santa Fe
Hydro Section





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 3, 1992

FILE: C-2248 thru C-2250;
LWD-C-3 thru LWD-C-16

Buck and Larue Jackson
Box 671
Pecos, Texas 79772

Dear Mr. and Mrs. Jackson:

Enclosed are your copies of Declaration of Owner of Underground Water Right, and Declaration of Ownership of Livestock Water Dam or Tank, as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to these numbers in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosure
cc: Santa Fe
Hydro Section

Renbed: LWD-1204
631576

STATE ENGINEER OFFICE

DECLARATION OF OWNERSHIP OF LIVESTOCK WATER DAM OR TANK
(Note: Read Instructions on Back of Form)

- Date of Receipt March 16, 1992 Declaration No. LWD-C-11
BUCK & LARUE JACKSON
 1. Name of Declarant & BUCK JACKSON TRUST Post Office BOX 671 PECOS TEXAS
 County of EDDY State of NEW MEXICO
2. Dam or tank is located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE of
 Section 4, Township 26S, Range 31E, on _____,
 a tributary of PECOS RIVER, and is on FEDERAL
 (State, Federal, Declarants)
 property.
 Water is stored for STOCK WATER, POTENTIAL IRRIGATION purposes.
 (stock water, if other uses so state)
 Topography of drainage basin, UNDULATING
 (steep, rough, rolling, undulating, flat)
 Approximate area of drainage basin above dam is square miles 1
 Vegetative cover of drainage basin, GRASS, SHRUBS
 (forest, woodland, shrubs, grass, bare)
 Is watercourse normally dry, YES
 (yes or no)
3. Approximate physical properties of storage dam: height of dam above streambed,
 or natural ground 11.5 feet; height of spillway flowline above stream-
 bed, or natural ground N/A feet; length of top of dam, 465 feet;
 width of crest, 42 feet; slope of upstream face, 4 horizontal
 to 1.0 vertical; slope of downward face, 2 horizontal to 1.0
 vertical; nature of riprap or other protection placed over water face of dam,
N/A
- Give type, size and maximum discharge of outlet pipe, if any, and type of gate
 used (if none say none). NONE
- Maximum water surface area 8 acres; storage capacity 18.2
 acre feet; dam contains approximately 3420 cubic yards of earth.
4. Approximate physical properties of spillway; bottom width N/A feet; maximum
 depth of flow N/A feet; discharge capacity N/A cubic feet per second;
 spillway is located in GRASSED EARTH
 (rock, shale, clay, grassed earth, bare earth, etc)
5. Dam or tank was constructed under the supervision of DECLARANT
 (name agency, declarant
 or engineer) and was completed in 1964
 (give date)
 Name of contractor that built dam UNKNOWN
6. Additional information THIS TANK WAS CONSTRUCTED TO FACILITATE STORAGE
IN A NATURAL LAKE BED THAT PROVIDED WATER TO DOMESTIC LIVESTOCK PRIOR
TO 1907.

FILED
 UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM.
 ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

STATE ENGINEER OFFICE
 ALBUQUERQUE, N.M.
 6/10/92

DECLARANT'S CERTIFICATE

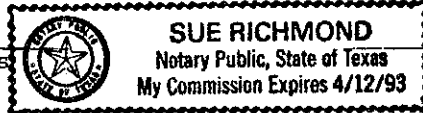
I hereby certify that I have read the foregoing statements and know the contents thereof and representations thereon, and that the same are true to the best of my knowledge and belief.

3-7-92
Date

Sue Jackson
Declarant

Subscribed and sworn to before me this 7th day of MARCH, 1992

4-12-93
My Commission Expires



Sue Richmond
Notary Public

INSTRUCTIONS

This Declaration shall be executed in triplicate and shall be accompanied by a \$1.00 filing fee and submitted to the nearest district office of State Engineer. (Offices are located in Santa Fe, Albuquerque, Roswell and Deming, New Mexico.)

All blanks should be completed as accurately as possible and if figures are estimated add the word "estimated" next to the value. Should any item requested be unknown so state on the form.

If tank or dam is filled by a diversion ditch or well, explain under Item 6 giving the known information on the ditch or well.

Should the dam or tank being declared have been constructed to replace an older structure so note under Item 6 giving the known information on original. (Information needed is location with respect to present structure, its capacity and date of completion.)

if the space on form is not adequate, attach supplemental sheets to form.

If possible, Declaration should also be accompanied by affidavits of persons who have first hand knowledge of the history of the works or by other evidence sufficient to substantiate the claim.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 14, 1992

FILE: LWD-C-3 thru LWD-C-11
LWD-C-13 thru LWD-C-16
C-2248 thru C-2250

Buck and Larue Jackson
Box 671
Pecos, TX 79772

Dear Mr. and Mrs. Jackson:

Enclosed are copies of "Investigative Reports" prepared for use by the State Engineer Office in conjunction with the Declarations of Ownership of Livestock Water Dam or Tank and Declarations of Owner of Underground Water Right which you recently filed.

If you have any questions about these reports or feel that you have additional information available which might clarify certain points, please contact either Craig Hipple or me.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosures
cc: Santa Fe
Hydro Section

INVESTIGATIVE REPORT

DATE: April 13, 1992
TO: File LWD-C-11
FROM: Mike Stapleton, Water Resource Technician
SUBJECT: Livestock Watering Dam - LWD-C-11

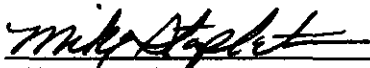
WELL:	<u>SUBDIVISION</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>ACRES</u>
	SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$	4	26S	31E	

LAND:

USE: Livestock Watering

STATEMENTS: Field investigation conducted April 6, 1992, revealed that LWD-C-11 is at the above declared location. This LWD is not shown on Phantom Banks Quadrangle Map. It was holding water and was in use for livestock watering.

SUMMARY: Taking into account the field investigation of April 6, 1992, it appears that this LWD is little more than an excavated pit tank in a natural lake bed, with little potential for irrigation use considering it is only filled by rainwater.


Mike Stapleton
Water Resource Technician II

MS/tg
cc: Santa Fe
Hydro Section





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 3, 1992

FILE: C-2248 thru C-2250;
LWD-C-3 thru LWD-C-16

Buck and Larue Jackson
Box 671
Pecos, Texas 79772

Dear Mr. and Mrs. Jackson:

Enclosed are your copies of Declaration of Owner of Underground Water Right, and Declaration of Ownership of Livestock Water Dam or Tank, as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to these numbers in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosure
cc: Santa Fe
Hydro Section

Renbid: LWD-1205
631575

STATE ENGINEER OFFICE

DECLARATION OF OWNERSHIP OF LIVESTOCK WATER DAM OR TANK
(Note: Read Instructions on Back of Form)

- Date of Receipt March 16, 1992 Declaration No. LWD-C-10
1. Name of Declarant BUCK & LARUE JACKSON
& BUCK JACKSON TRUST Post Office BOX 671 PECOS TEXAS
 County of EDDY State of NEW MEXICO
2. Dam or tank is located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW of
 Section 33, Township 25S, Range 31E, on _____,
 a tributary of PECOS TEXAS, and is on FEDERAL
 (State, Federal, Declarants)
 property.
 Water is stored for STOCK WATER, POTENTIAL IRRIGATION purposes.
 (stock water, if other uses so state)
 Topography of drainage basin, UNDULATING
 (steep, rough, rolling, undulating, flat)
 Approximate area of drainage basin above dam is square miles 1
 Vegetative cover of drainage basin, GRASS, SHRUBS
 (forest, woodland, shrubs, grass, bare)
 Is watercourse normally dry, YES
 (yes or no)
3. Approximate physical properties of storage dam: height of dam above streambed,
 or natural ground 12 feet; height of spillway flowline above stream-
 bed, or natural ground N/A feet; length of top of dam, 405 feet;
 width of crest, 60 feet; slope of upstream face, 5 horizontal
 to 1.0 vertical; slope of downward face, 3 horizontal to 1.0
 vertical; nature of riprap or other protection placed over water face of dam,
N/A

 Give type, size and maximum discharge of outlet pipe, if any, and type of gate
 used (if none say none). NONE

 Maximum water surface area 16.6 acres; storage capacity 52.2
 acre feet; dam contains approximately 3589 cubic yards of earth.
4. Approximate physical properties of spillway; bottom width N/A feet; maximum
 depth of flow N/A feet; discharge capacity N/A cubic feet per second;
 spillway is located in GRASSED EARTH
 (rock, shale, clay, grassed earth, bare earth, etc)
5. Dam or tank was constructed under the supervision of DECLARANT
 (name agency, declarant
 _____ and was completed in 1964
 or engineer) (give date)
 Name of contractor that built dam UNKNOWN
6. Additional information THIS TANK WAS CONSTRUCTED TO FACILITATE STORAGE
IN A NATURAL LAKE BED THAT PROVIDED WATER TO DOMESTIC LIVESTOCK PRIOR
TO 1907.

FILED
 UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM.
 ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

STATE ENGINEER OFFICE
 NEW MEXICO
 JUN 9 1992

DECLARANT'S CERTIFICATE

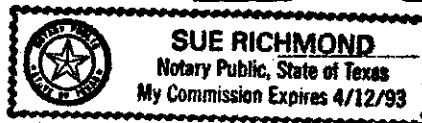
I hereby certify that I have read the foregoing statements and know the contents thereof and representations thereon, and that the same are true to the best of my knowledge and belief.

3-9-92
Date

L. L. Jackson
Declarant

Subscribed and sworn to before me this 9th day of MARCH, 1992

4-12-93
My Commission Expires



Sue Richmond
Notary Public

INSTRUCTIONS

This Declaration shall be executed in triplicate and shall be accompanied by a \$1.00 filing fee and submitted to the nearest district office of State Engineer. (Offices are located in Santa Fe, Albuquerque, Roswell and Deming, New Mexico.)

All blanks should be completed as accurately as possible and if figures are estimated add the word "estimated" next to the value. Should any item requested be unknown so state on the form.

If tank or dam is filled by a diversion ditch or well, explain under Item 6 giving the known information on the ditch or well.

Should the dam or tank being declared have been constructed to replace an older structure so note under Item 6 giving the known information on original. (Information needed is location with respect to present structure, its capacity and date of completion.)

if the space on form is not adequate, attach supplemental sheets to form.

If possible, Declaration should also be accompanied by affidavits of persons who have first hand knowledge of the history of the works or by other evidence sufficient to substantiate the claim.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 14, 1992

FILE: LWD-C-3 thru LWD-C-11
LWD-C-13 thru LWD-C-16
C-2248 thru C-2250

Buck and Larue Jackson
Box 671
Pecos, TX 79772

Dear Mr. and Mrs. Jackson:

Enclosed are copies of "Investigative Reports" prepared for use by the State Engineer Office in conjunction with the Declarations of Ownership of Livestock Water Dam or Tank and Declarations of Owner of Underground Water Right which you recently filed.

If you have any questions about these reports or feel that you have additional information available which might clarify certain points, please contact either Craig Hipple or me.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosures
cc: Santa Fe
Hydro Section

INVESTIGATIVE REPORT

DATE: April 6, 1992

TO: File LWD-C-10

FROM: Mike Stapleton, Water Resource Technician II

SUBJECT: Livestock Watering Dam - LWD-C-10

WELL:	<u>SUBDIVISION</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>ACRES</u>
	NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$	33	25S	31E	

LAND:

USE: Livestock Watering

STATEMENTS: Field investigation conducted April 6, 1992, revealed that LWD-C-10 is at the above declared location. This LWD is shown on the Phantom Banks Quadrangle Map and is known as Cockleberry Tank. It was holding water and in use for livestock watering.

SUMMARY: Taking into account the field investigation of April 6, 1992, it appears that this LWD is little more than an excavated pit tank in the bottom of a natural lake with little potential for irrigation use considering this pit is only filled by rainwater.



Mike Stapleton
Water Resource Technician II

MS/tg

cc: Santa Fe
Hydro Section





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 3, 1992

FILE: C-2248 thru C-2250;
LWD-C-3 thru LWD-C-16

Buck and Larue Jackson
Box 671
Pecos, Texas 79772

Dear Mr. and Mrs. Jackson:

Enclosed are your copies of Declaration of Owner of Underground Water Right, and Declaration of Ownership of Livestock Water Dam or Tank, as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to these numbers in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosure
cc: Santa Fe
Hydro Section

STATE ENGINEER OFFICE

DECLARATION OF OWNERSHIP OF LIVESTOCK WATER DAM OR TANK
(Note: Read Instructions on Back of Form)Renbid: LWD-1186
631010

Date of Receipt March 16, 1992 Declaration No. LWD-C-5

1. Name of Declarant BUCK & LARUE JACKSON Post Office BOX 671 PECOS TEXAS
BUCK JACKSON TRUST
 County of EDDY State of NEW MEXICO

2. Dam or tank is located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE of
 Section 4, Township 26S, Range 31E, on _____,
 a tributary of PECOS RIVER, and is on FEDERAL
 (State, Federal, Declarants)
 property.
 Water is stored for STOCK WATER, POTENTIAL IRRIGATION purposes.
 (stock water, if other uses so state)
 Topography of drainage basin, UNDULATING
 (steep, rough, rolling, undulating, flat)
 Approximate area of drainage basin above dam is square miles 1
 Vegetative cover of drainage basin, GRASS, SHRUBS
 (forest, woodland, shrubs, grass, bare)
 Is watercourse normally dry, YES
 (yes or no)

3. Approximate physical properties of storage dam: height of dam above streambed,
 or natural ground 8.5 feet; height of spillway flowline above stream-
 bed, or natural ground N/A feet; length of top of dam, 60 feet;
 width of crest, 36 feet; slope of upstream face, 4 horizontal
 to 1.0 vertical; slope of downward face, 2 horizontal to 1.0
 vertical; nature of riprap or other protection placed over water face of dam,
N/A

Give type, size and maximum discharge of outlet pipe, if any, and type of gate
 used (if none say none). NONE

Maximum water surface area 6.8 acres; storage capacity 14
 acre feet; dam contains approximately 699 cubic yards of earth.

4. Approximate physical properties of spillway; bottom width N/A feet; maximum
 depth of flow N/A feet; discharge capacity N/A cubic feet per second;
 spillway is located in GRASSED EARTH
 (rock, shale, clay, grassed earth, bare earth, etc)

5. Dam or tank was constructed under the supervision of DECLARANT
 (name agency, declarant
 and was completed in 1964
 (give date)
 or engineer)
 Name of contractor that built dam unknown

6. Additional information THIS TANK WAS CONSTRUCTED TO FACILITATE STORAGE
IN A NATURAL LAKE BED THAT PROVIDED WATER TO DOMESTIC LIVESTOCK PRIOR
TO 1907.

FILED
 JUN 16 1992
 ALBUQUERQUE
 NEW MEXICO
 9.21

UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM.
 ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

DECLARANT'S CERTIFICATE

I hereby certify that I have read the foregoing statements and know the contents thereof and representations thereon, and that the same are true to the best of my knowledge and belief.

3-9-92
Date

LaRue Jackson
Declarant

Subscribed and sworn to before me this 9TH day of MARCH, 19 92

4-12-93
My Commission Expires

Sue Richmond
Notary Public

INSTRUCTIONS



This Declaration shall be executed in triplicate and shall be accompanied by a \$1.00 filing fee and submitted to the nearest district office of State Engineer. (Offices are located in Santa Fe, Albuquerque, Roswell and Deming, New Mexico.)

All blanks should be completed as accurately as possible and if figures are estimated add the word "estimated" next to the value. Should any item requested be unknown so state on the form.

If tank or dam is filled by a diversion ditch or well, explain under Item 6 giving the known information on the ditch or well.

Should the dam or tank being declared have been constructed to replace an older structure so note under Item 6 giving the known information on original. (Information needed is location with respect to present structure, its capacity and date of completion.)

if the space on form is not adequate, attach supplemental sheets to form.

If possible, Declaration should also be accompanied by affidavits of persons who have first hand knowledge of the history of the works or by other evidence sufficient to substantiate the claim.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 14, 1992

FILE: LWD-C-3 thru LWD-C-11
LWD-C-13 thru LWD-C-16
C-2248 thru C-2250

Buck and Larue Jackson
Box 671
Pecos, TX 79772

Dear Mr. and Mrs. Jackson:

Enclosed are copies of "Investigative Reports" prepared for use by the State Engineer Office in conjunction with the Declarations of Ownership of Livestock Water Dam or Tank and Declarations of Owner of Underground Water Right which you recently filed.

If you have any questions about these reports or feel that you have additional information available which might clarify certain points, please contact either Craig Hipple or me.

Sincerely,

Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosures
cc: Santa Fe
Hydro Section

INVESTIGATIVE REPORT

DATE: April 13, 1992
TO: File LWD-C-5
FROM: Mike Stapleton, Water Resource Technician II
SUBJECT: Livestock Watering Dam - LWD-C-5

WELL:	<u>SUBDIVISION</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>ACRES</u>
	SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$	4	26S	31E	

LAND:

USE: Livestock Watering

STATEMENTS: Field investigation conducted April 6, 1992, revealed that LWD-C-5 is at the above declared location. LWD-C-5 is not shown on Phantom Bank Quadrangle Map. It was holding water and in use for livestock watering.

SUMMARY: Taking into account the field investigation of April 6, 1992, it appears that this LWD is little more than an excavated pit tank in the bottom of a natural lake. It has little potential for irrigation use considering that it is only filled by rainwater.



Mike Stapleton
Water Resource Technician II

MS/tg
cc: Santa Fe
Hydro Section





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

April 3, 1992

FILE: C-2248 thru C-2250;
LWD-C-3 thru LWD-C-16

Buck and Larue Jackson
Box 671
Pecos, Texas 79772

Dear Mr. and Mrs. Jackson:

Enclosed are your copies of Declaration of Owner of Underground Water Right, and Declaration of Ownership of Livestock Water Dam or Tank, as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to these numbers in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Sincerely,

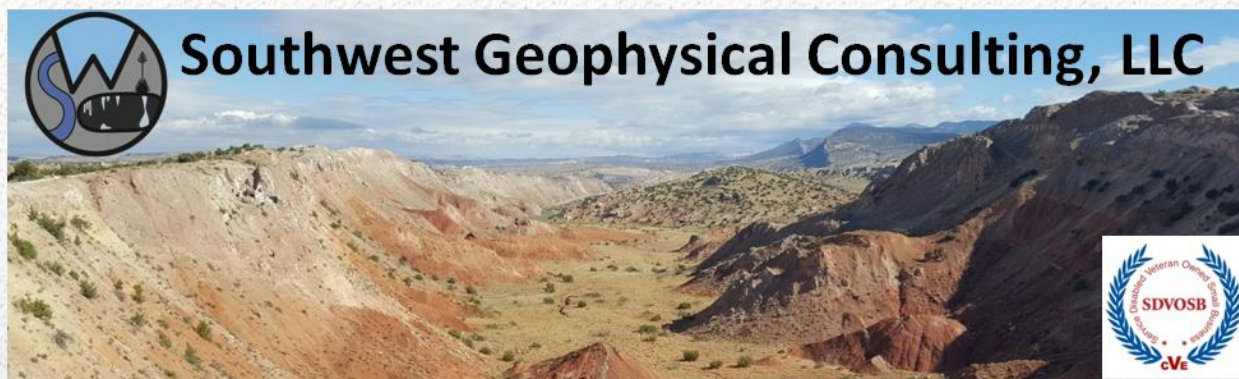
Richard C. Cibak
Pecos River Basin Supervisor

RCC/tg
Enclosure
cc: Santa Fe
Hydro Section



APPENDIX B

Environmental Karst Study Report



Environmental Karst Study Report PLU PB 04-26-31 USA Battery Eddy County, New Mexico

**Prepared For:
Ensolum, LLC
601 North Marienfeld Street Suite 400
Midland, TX 79701**

Within 200 feet of the spill delineation boundary:

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

April 28, 2026

ENS-037-20260320

©2026 – Southwest Geophysical Consulting, LLC. All rights reserved.

Published by:

Southwest Geophysical Consulting, LLC
5117 Fairfax Dr. NW
Albuquerque, NM 87114
(505) 585-2550
www.swgeophys.com

Prepared by:

Kat Knight
Field Geologist
kat@swgeophys.com

Reviewed by:

David Decker, PhD, PG, CPG
CEO, Principal Geologist
dave@swgeophys.com

Prepared for:

Ensolum, LLC
601 North Marienfeld Street Suite 400
Midland, TX 79701

Point of Contact:

Jeremy Reich
(432) 296-0627
jreich@ensolum.com

MMXXVI

TABLE OF CONTENTS

FRONT MATTER.....	i
TABLE OF CONTENTS.....	ii
LIST OF FIGURES.....	iii
LIST OF TABLES.....	iii
1.0 INTRODUCTION.....	1
1.1 Goals of this Study.....	1
1.2 Summary of Findings.....	1
1.3 Affected Environment.....	1
1.4 Limitations of Report.....	3
2.0 LOCATION AND DESCRIPTION OF STUDY AREA.....	4
2.1 Description of Site.....	4
2.2 Local Geology Summary.....	5
2.3 Description of Survey.....	6
2.3.1 Surface Karst Survey.....	6
2.3.2 Geophysical Survey.....	8
3.0 RESULTS.....	10
3.1 Surface Karst Survey.....	10
3.2 Geophysical Survey.....	11
4.0 DISCUSSION.....	12
5.0 SUMMARY.....	14
6.0 DISCLOSURE STATEMENT.....	14
7.0 REFERENCES.....	16
8.0 GLOSSARY OF TERMS.....	18
9.0 ATTESTATION.....	20

LIST OF FIGURES

Figure 1: Karst occurrence zone overview..... 2

Figure 2: Land ownership and PLSS overview..... 4

Figure 3: Geology overview 5

Figure 4: Surface survey overview 7

Figure 5: Geophysical survey overview 8

Figure 6: Surface karst survey results 10

Figure 7: 2D inverted resistivity section PB0401 11

Figure 8: Data overlay 12

LIST OF TABLES

Table 1: Survey Line Data Table..... 9

Table 2: Software Information and Settings..... 9

1.0 INTRODUCTION

This report was commissioned by Ensolum, LLC (hereinafter referred to as "the client"), on March 20, 2026, for the purpose of conducting an environmental karst study within an area encompassing the PLU PB 04-26-31 USA Battery project site (hereinafter termed "PB04") centered at N 32.065544 ° W 103.784793°.

1.1 Goals of this Study

The goals of this study are to conduct a surface karst inventory and provide the client with the location and description of any surface karst features located within 200 feet (61 meters) of the spill delineation boundary (as defined by 19.15.29.12 NMAC^[1]), and to determine whether stable ground exists (as defined by 19.15.2 NMAC Definitions^[2]) within 200 feet of the spill delineation boundary at the PLU PB 04-26-31 USA Battery site as provided by the client via e-mail (**20260320 PLU PB 04-26-31 USA Battery (PB04) EKS.kmz**) on March 20, 2026, using electrical resistivity imaging^[3].

1.2 Summary of Findings

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

1.3 Affected Environment

The PB04 project site is located in evaporite karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Evaporite karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region. Additionally, karst may develop by hypogene processes involving dissolution by upwelling fluids from depth independent of recharge from the overlying or immediately adjacent surface. Hypogene karst systems may not be connected to the surface and can remain undiscovered unless encountered during drilling or excavation.

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

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

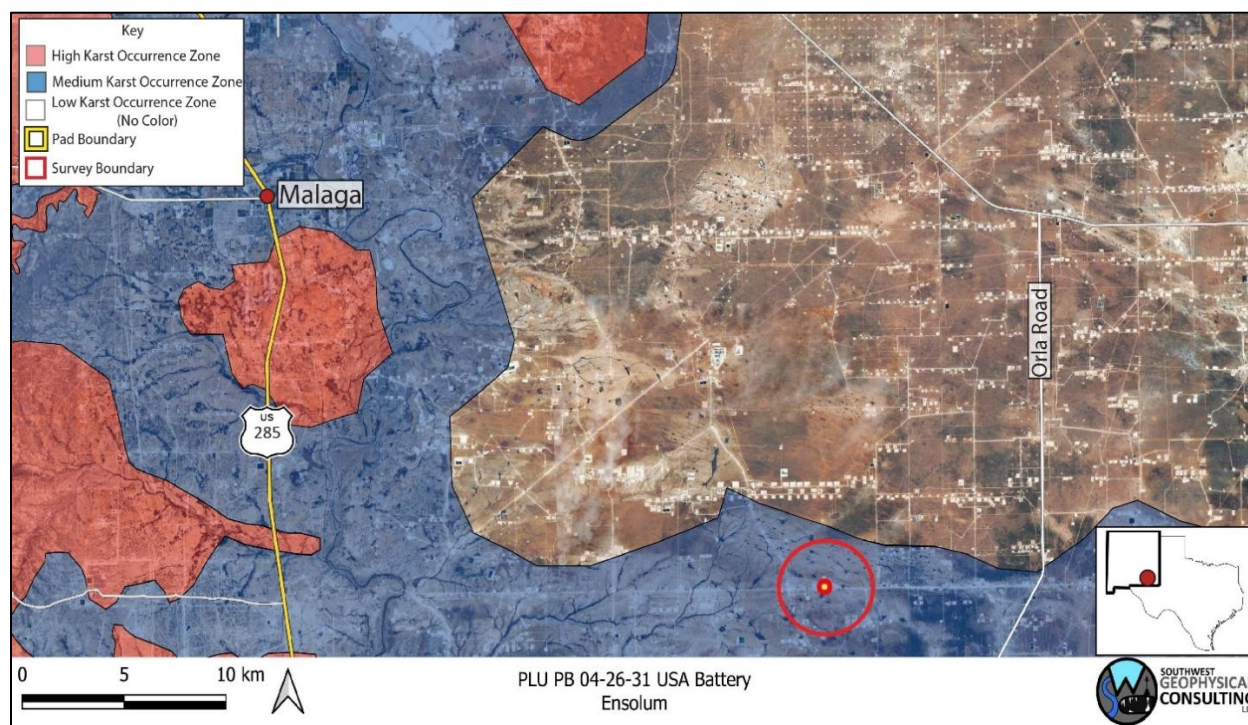


Figure 1: Karst occurrence zone overview. Background image: Google Earth. Image date: November 17, 2025. Image datum: WGS-84.

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

1.4 Limitations of Report

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

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

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

To the best of our knowledge, information contained in this report is accurate at the date of issue; however, conditions on the site can change over a short period of time and, therefore, the information in this report should not be used beyond two years, and shall not be used beyond five years past the date of the imagery collection reported in section **2.3 Description of Survey**, as per BLM guidelines. Large weather events can shorten this time period as areas subject to karst development can rapidly form new features subsequent to these events.

2.0 LOCATION AND DESCRIPTION OF STUDY AREA

2.1 Description of Site

The site is located in Eddy County, New Mexico, 32.3 kilometers (20.1 miles) southeast of Malaga, east of U.S. Highway 285, north of Pipeline Road, and west of Orla Road. The pad is located in the SW ¼ section of section 4, NM T26S R31E^[6] (**Figure 1** and **Figure 2**). The region has rolling terrain with karstification occurring in the gypsite soils and underlying gypsum and dolomite bedrock^[7] (see section **2.2 Local Geology Summary** for further information). The region has a semi-arid climate with an average annual precipitation of approximately 12.6 inches, based on the 1991–2020 climate normals for Carlsbad, New Mexico. Much of this precipitation occurs during summer thunderstorms associated with the North American monsoon, typically from June through September. Summers are hot and sunny while winters are generally mild, with an average maximum temperature of approximately 96.6°F in July and an average minimum temperature of approximately 28.8°F in January^[8]. This area is within the Apachean–Chihuahuan Mesquite Upland Scrub as defined by the Southwestern Regional ReGAP Vegetation map^[9] and the vegetation consists mostly of mesquite shrubs and other desert scrub including viscid acacia, whitethorn acacia, New Mexico juniper, and redberry juniper. The spill delineation boundary is located within an MKOZ^[5] (**Figure 1**) and within BLM-CFO-managed land^[10] (**Figure 2**).

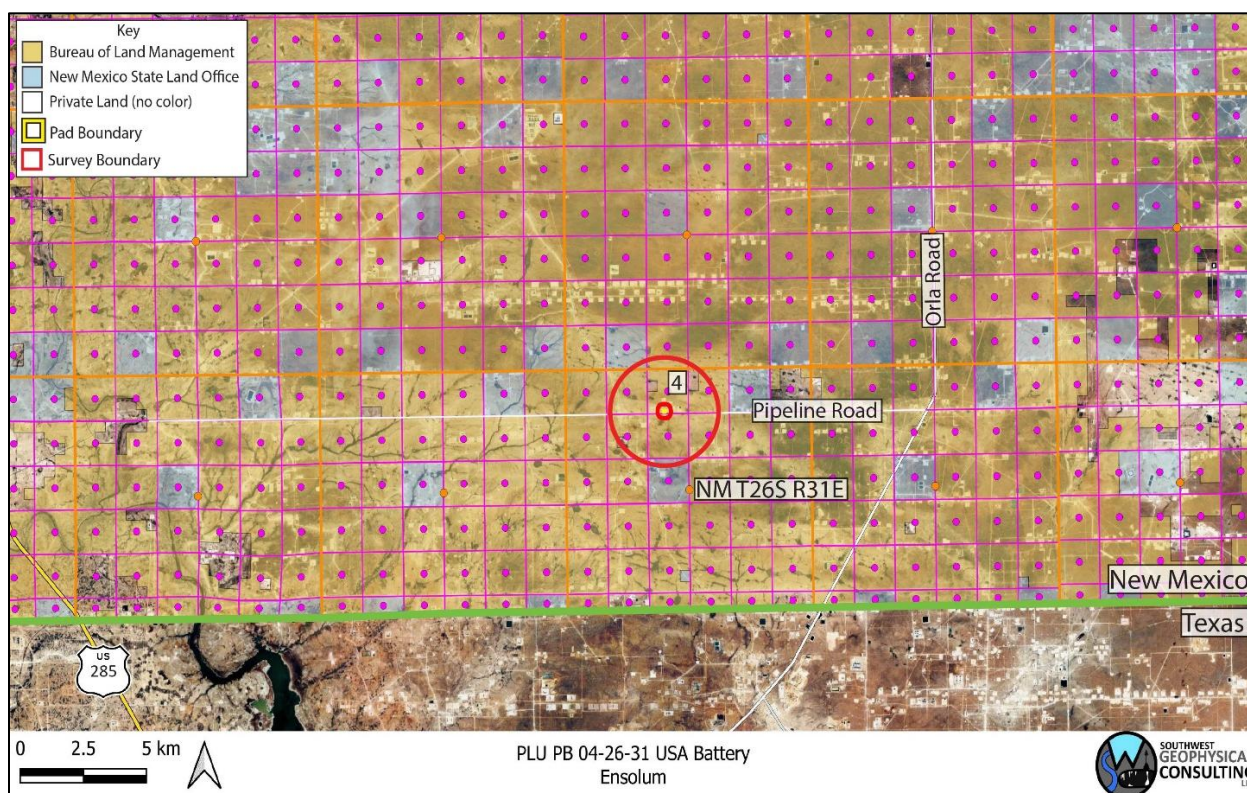


Figure 2: Land ownership and PLSS overview. Background image credit: Google Earth. Image date: November 17, 2025. Image datum: WGS-84.

2.2 Local Geology Summary

The site for the PB04 survey is located at an elevation of 1,000 meters (3,281 feet), $\pm$ 3 meters (9.8 feet). This region is entirely underlain by the Permian Dewey Lake (Pdl) and Rustler (Pru) Formations. The area is mantled by gypsiferous soils (gypsite), older Quaternary alluvium (Qao), and eolian deposits (Qe)^[11] up to 5 meters in depth (**Figure 3**).

The Dewey Lake Formation (previously the Quartermaster) is composed of calcite-cemented, hematite-stained quartz sand grains and occasional gypsum lenses and can, in favorable conditions, form cavernous porosity within 30 meters of the top of the Rustler^[12]. The Dewey Lake is also known to be highly fractured near areas of heavy halite dissolution (e.g., Nash Draw) and these fractures can act as hydrologic conduits^[13].

The Rustler Formation is an evaporite facies composed mainly of thin siltstones and sandstones interbedded with claystones, dolomite, and gypsum, and contains both karst-forming strata (the Forty-niner and Tamarisk members) and two shallow aquifers (the Magenta and Culebra Dolomite members)^[12]. The Forty-niner and Tamarisk members are known to have highly developed karst features including large voids and solution-enlarged fractures^[14].

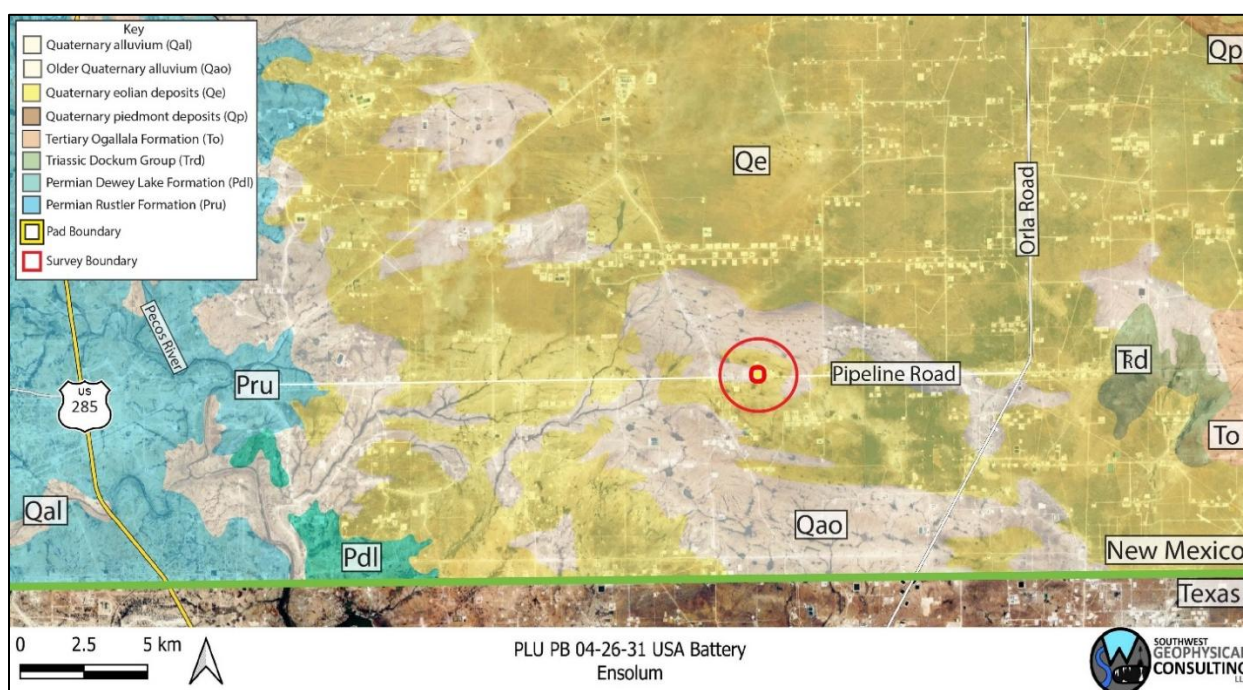


Figure 3: Geology overview. Geology map credit: The Digital Geologic Map of New Mexico in ARC/INFO Format. Background image credit: Google Earth. Image date: November 17, 2025. Image datum: WGS-84.

The survey area is covered by the easily accessible Geologic Map of New Mexico (2003) at 1:500,000 scale^[15] and the Digital Geologic Map of New Mexico in ARC/INFO Format^[11].

2.3 Description of Survey

2.3.1 Surface Karst Survey

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

The surface karst survey includes a desk study prior to the flight which allows us to provide client feedback in the event of any previously known karst features in the area. The desk study is typically performed out to 305 meters (1,000 feet) from the spill delineation boundary per New Mexico Oil Conservation Division guidance^[1] (**Figure 4**). The study was performed using satellite and aerial imagery from Google Earth Pro dated November 17, 2025 (please note features less than one meter in diameter are generally not visible using this method); the Southwest Geophysical Cave and Karst Database dated April 20, 2026^[16]; the Phantom Banks, NM-TX, 1:24,000 quad, 1968, USGS; and the latest lidar imagery from CalTopo.com. Please note that we use older topographic maps because newer maps have had caves removed from them. These searches and queries returned no karst features within the 305-meter survey boundary.

Surface karst surveys are conducted by sUAS at low elevation within 200 meters of the spill delineation boundary^[4] (**Figure 4**) following a preplanned raster pattern flightpath designed for the purpose of generating at least 75% imagery overlap. The collected high-resolution, georeferenced imagery is stitched together to develop orthomosaic imagery which is further developed into a digital elevation model (DEM); the DEM is then processed into a local relief model (LRM) (**Figure 6**). This LRM is color coded to enhance differences in elevation of as little as five centimeters. The orthoimagery, DEM, and LRM are uploaded to a server where they are analyzed by an experienced karst geologist. Finally, the data is reviewed by a senior karst geologist for quality assurance and downloaded into a table for inclusion in a written report^[17].

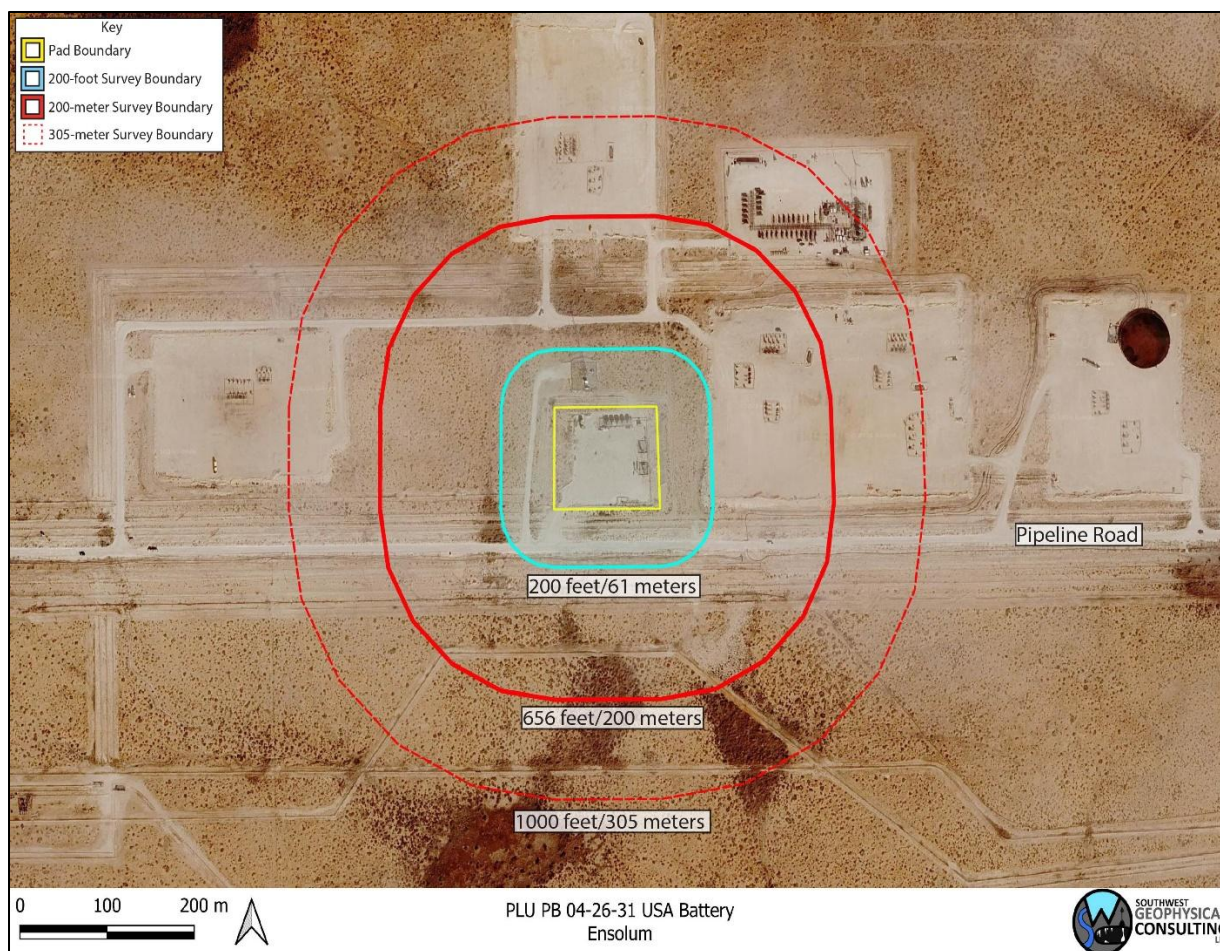


Figure 4: Surface survey overview. Background image credit: Google Earth. Image date: November 17, 2025. Datum: WGS-84.

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

The imagery for this study was collected via aerial survey by Pat Lagodney of SWCA on March 28, 2026. Surface karst features may have developed after these dates and will not be noted in this report. Imagery analysis was completed by Kat Knight of Southwest Geophysical Consulting on April 9, 2026.

2.3.2 Geophysical Survey

For this survey, a Guideline Geo Terrameter LS 2, one 26-electrode array, and one 23-electrode array of 40-centimeter-long electrodes were used to image the subsurface. The pad boundary provided by the client was used to plan the resistivity lines and define the survey boundaries. The PB04 survey consisted of two resistivity lines in a dipole-dipole configuration, with a 26-electrode line laid out west to east (PB0401) and a 23-electrode line laid out south to north (PB0402), both at 5-meter electrode spacing, resulting in 125-meter-long and 110-meter-long-lines (**Figure 5, Table 1**).

A preconfigured command file was used to run the data collection (DipoleDipole2x14) which consisted of a dipole-dipole survey. This electrode configuration provided a depth of investigation of 26 meters (85 feet) in this location at a resolution of 2.5 to 3.0 meters (8.2 to 9.8 feet) near the surface. A Leica GS18 GPS was used to record electrode locations and elevations. On this survey, the estimated horizontal error mean was 4.7 cm (1.85 inches), and the estimated vertical error mean was 8.9 cm (3.50 inches).

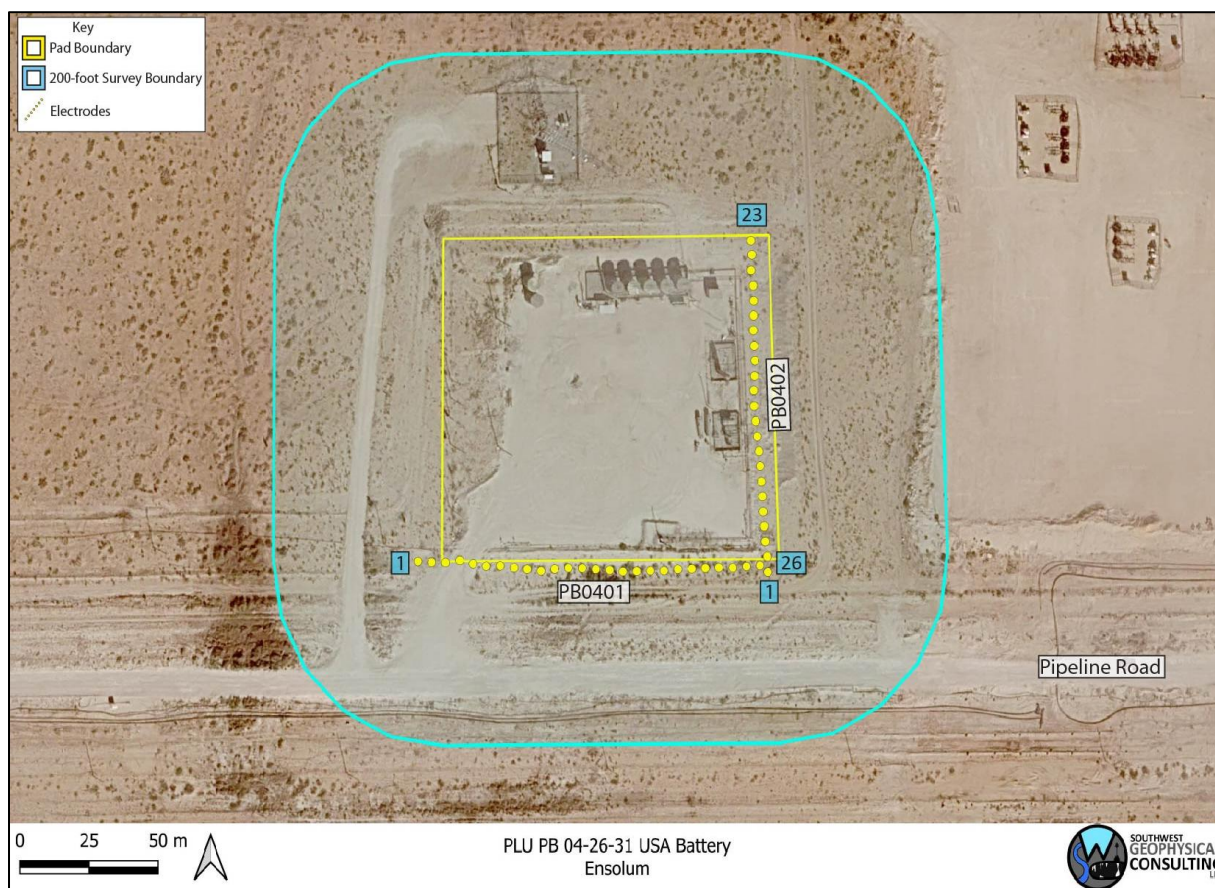


Figure 5: Geophysical survey overview. Survey lines were conducted with 26 (PB0401) and 23 (PB0402) electrodes, at 5-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: November 17, 2025. Image datum: WGS-84.

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

Table 1: Survey Line Data Table. The .kmz file contains all the points for the survey line listed in the file name. These data are available in the accompanying files PB04_ERI_Points.xlsx and ENS-037-20260320_PB04_Data_Files.kmz.

File Name:	Completed By:	Date:
PB0401.kmz	Michael Jones – Field Geophysicist Britt Bommer – Field Geologist Kat Knight – Field Geologist	4/14/2026
PB0402.kmz		

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

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

Table 2: Software Information and Settings

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

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

All resistivity field work, including setup, stow, and travel, was completed by Michael Jones, Britt Bommer, and Kat Knight on April 14, 2026.

3.0 RESULTS

3.1 Surface Karst Survey

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

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

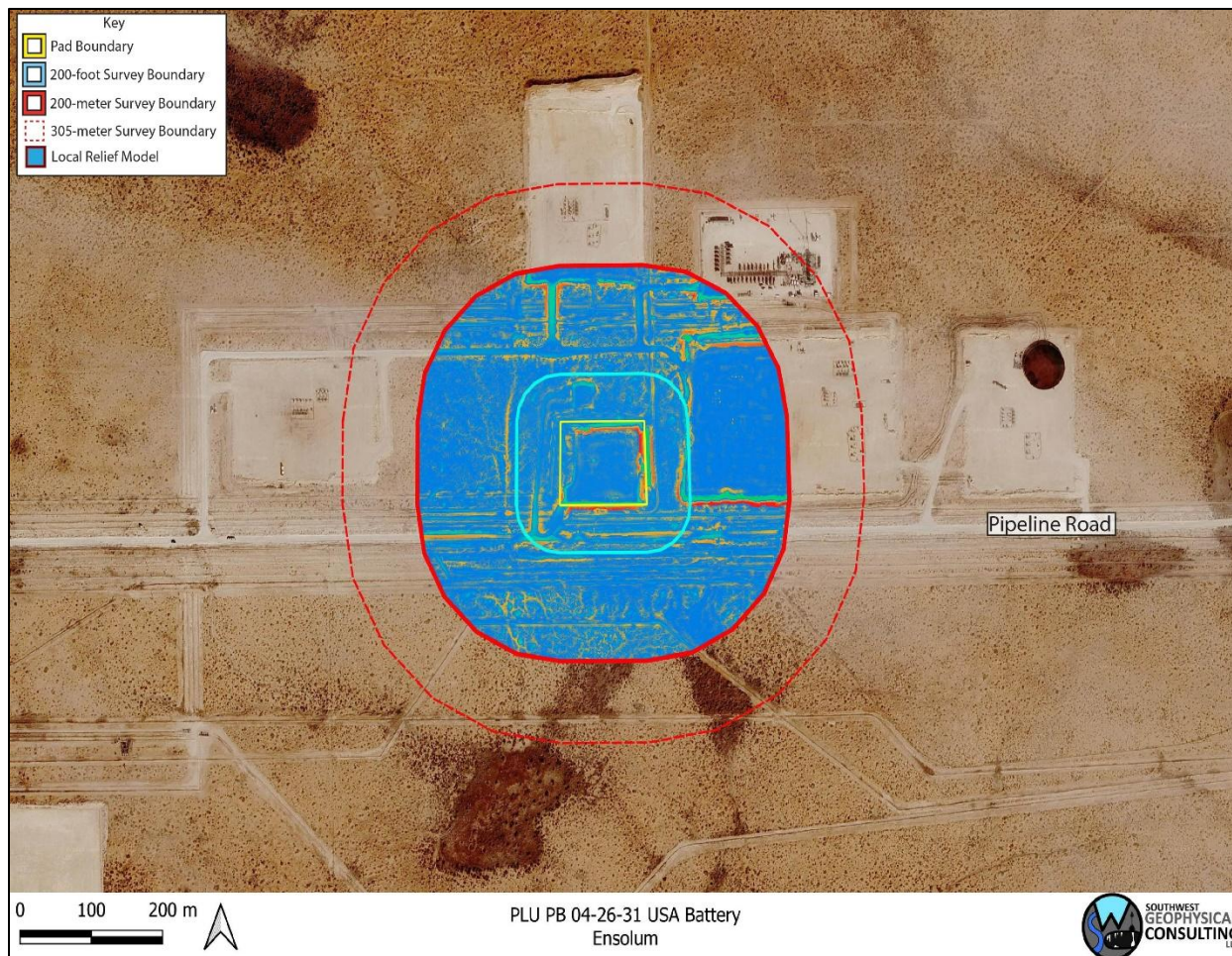


Figure 6: Surface karst survey results. Background image credit: Google Earth. Image date: November 17, 2025. Image datum: WGS-84.

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

3.2 Geophysical Survey

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

The results of this study indicate a well-layered geologic system with low resistivities between 28.0 and 677 Ohm-m with occasional areas up to 1,783 Ohm-m (**Figure 7**). Please keep in mind when viewing the 2D inverted resistivity sections that color maps can be widely different for each view. Always check the color map located on the right side of the image when viewing the 2D images to ensure you understand the range of resistivities presented. Distances along the top and depths along the left side are in meters. The color map along the right side is in Ohm-m. Due to the nature of the survey, shallower zones have higher resolution between electrodes than deeper zones; therefore, small features at depth will not be visible.

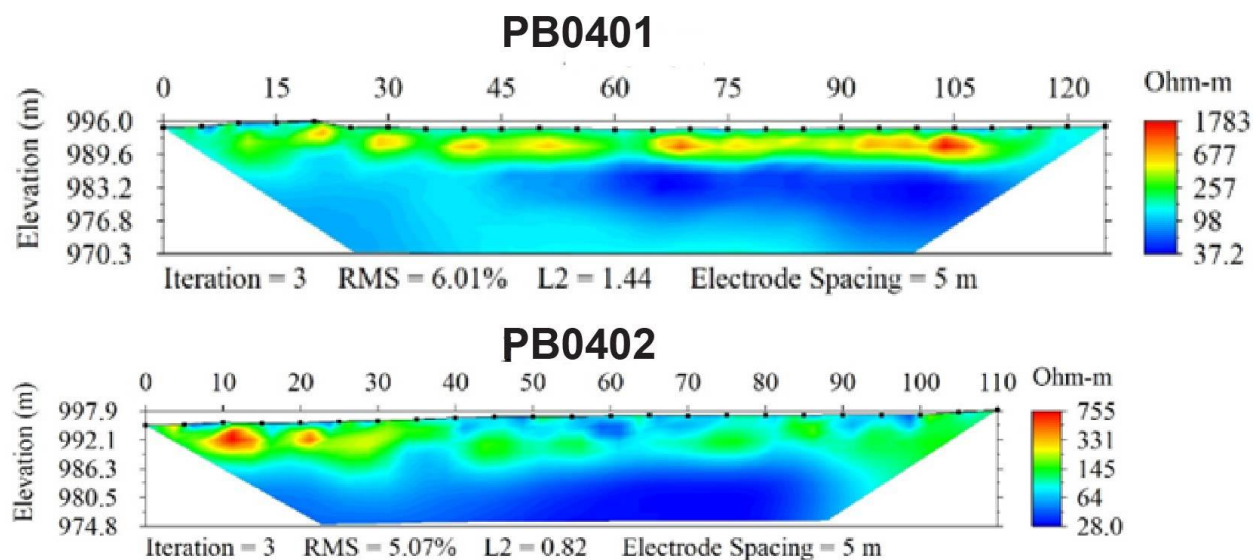


Figure 7: 2D inverted resistivity section. Reds and oranges indicate higher resistivity values. Yellows and greens are medium-resistivity values. Blues are low-resistivity values. Please note that the color scale is relative.

4.0 DISCUSSION

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

No anomalies consistent with air-filled subsurface voids are identified within the PB04 survey area. Small solutionally enlarged voids or fractures at or near the resolution limit of the survey (2.5 – 3.0 meters) may be present. Areas of high-resistivity (reds and oranges) near the surface are interpreted as dry gypsite soils and dolomite bedrock of the Rustler Formation^[18] (**Figure 7** and **Figure 8**). Low-resistivity areas between 28 – 70 Ohm-m may either represent surface-to-subsurface hydrologic pathways, or a layer of either clays and halite lenses or moist or saturated layers within the Rustler Formation (**Figure 7**).

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

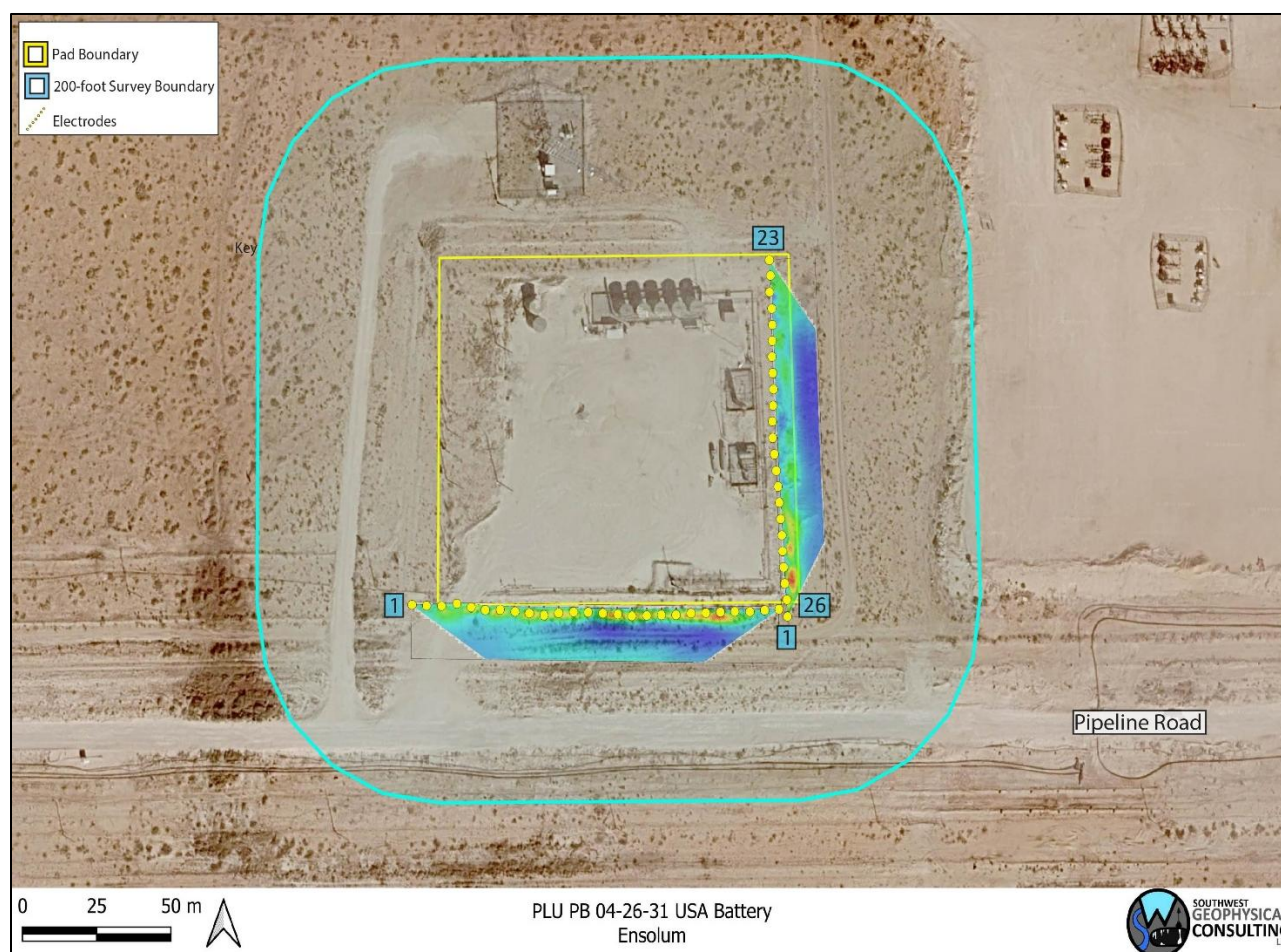


Figure 8: Data overlay. Colored trapezoid is the 2D inverted resistivity line. Background image credit: Google Earth. Image date: November 17, 2025.

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

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

5.0 SUMMARY

- **The PB04 survey identified no surface karst features within 200 feet (61 meters) of the spill delineation boundary.**
- No surface karst features were identified within the 200-meter survey boundary, and no springs are noted within the 305-meter survey boundary.
- **No shallow anomalies interpreted as large voids or related karst features that would present a danger to equipment operators are located within the geophysical survey area.**
- Intercepting a void during remediation is unlikely, but still possible. Small voids or solutionally enlarged fractures below the resolution limit of the survey may be encountered.
- **Well-layered stratigraphy is interpreted to exist beneath the geophysical survey line, indicating stable ground in the area of the subsurface investigation.**
- When conducting any remediation activities in this area, employing a BLM-CFO approved karst monitor on site should be considered.

6.0 DISCLOSURE STATEMENT

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

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

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

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

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

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

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

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

7.0 REFERENCES

- 1 Division, O. C. *Title 19, Chapter 15, Part 29* (Oil Conservation Division, 2018).
- 2 NMSLO. (ed Oil Conservation Division) (New Mexico State Land Office, Santa Fe, NM, 2018).
- 3 Decker, D. & Jorgensen, G. L. *Environmental Karst Surveys White Paper* (Southwest Geophysical Consulting, LLC, 2024).
- 4 Goodbar, J. R. Vol. BLM Management Handbook H-8380-1 (ed Carlsbad Field Office) 59 (Bureau of Land Management, Denver, CO, 2015).
- 5 Decker, D., Trautner, E. & Palmer, R. (Bureau of Land Management - Carlsbad Field Office, 2025).
- 6 Earthpoint. *Earthpoint Tools for Google Earth*, <<https://www.earthpoint.us/Townships.aspx>> (2022).
- 7 Decker, D. D., Land, L. & Luke, B. Characterization of Playa Lakes in the Gypsum Karst of Southeastern New Mexico and West Texas, USA. *Oklahoma Geological Survey Circular 113 113* (2021).
- 8 W.R.C.C. *National Climate Data Center 1991-2020 Normal Climate Summary for Carlsbad, New Mexico (291469)*, 2021).
- 9 Whitehead, W. & Flynn, C. *Plant Utilization in Southeastern New Mexico: Botany, Ethnobotany, and Archaeology*. (Bureau of Land Management, Carlsbad Field Office, 2017).
- 10 NMSLO. Digital overlay (KML) of the surface land ownership in New Mexico (New Mexico State Land Office, Santa Fe, NM, 2024).
- 11 Green, G. N. & Jones, G. E. *The Digital Geologic Map of New Mexico in ARC/INFO Format*, <<https://mrdata.usgs.gov/geology/state/state.php?state=NM>> (1997).
- 12 Austin, G. S. *Geology and mineral deposits of Ochoan rocks in Delaware Basin and adjacent areas*. Vol. Circular 159 (New Mexico Bureau of Mines and Mineral Resources, 1978).
- 13 Powers, D. W., Lambert, S. J., Shaffer, S.-E., Hill, L. R. & Weart, W. D. Geological Characterization Report, Waste Isolation Pilot Plant (WIPP) Site, Southeastern New Mexico. 726 (Sandia Laboratories, Albuquerque, NM, 1978).
- 14 Goodbar, J. R. & Goodbar, A. in *US Geological Survey Karst Interest Group* (National Cave and Karst Research Institute, Carlsbad, NM, 2014).
- 15 Scholle, P. A. *Geologic Map of New Mexico*. (2003).

- 16 Decker, D. D., Jorgensen, G. L. & Palmer, R. in *Southwest Geophysical Cave and Karst Database* (ed LLC Southwest Geophysical Consulting) (Albuquerque, NM, 2026).
- 17 Whitehead, W., Bandy, M. & Decker, D. Protocol for Using UAV Photography for Rapid Assessment of Karst Features in Southeast New Mexico. *Proceedings of the 2022 Cave and Karst Management Symposium* (2022).
- 18 Hill, C. A. *Geology of the Delaware Basin, Guadalupe, Apache and Glass Mountains, New Mexico and West Texas*. Vol. 96-39 (Permian Basin Section - SEPM, 1996).

8.0 GLOSSARY OF TERMS

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

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

9.0 ATTESTATION

David D. Decker, PhD, PG, CPG

Chief Executive Officer, Principal Geologist

Southwest Geophysical Consulting, LLC

5117 Fairfax Dr. NW

Albuquerque, NM 87114

dave@swgeophys.com

(505) 585-2550

CERTIFICATE OF AUTHOR

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

- I am currently employed as a consulting geologist in the specialty of caves and karst with an office address of 5117 Fairfax Dr. NW, Albuquerque, NM, USA, 87114.
- I graduated with a Master of Science in Applied Physics with a specialization in Sensor Systems from the Naval Post Graduate School in Monterey, California, in 2003, and a Doctor of Philosophy in Earth and Planetary Sciences from the University of New Mexico, Albuquerque, New Mexico, in 2018.
- I am a Licensed Professional Geologist in the State of Texas, USA (PG-15242) and have been since 2021. I am a Certified Professional Geologist through the American Institute of Professional Geologists (CPG-12123) and have been since 2021.
- I have been employed as a geologist continuously since 2016. I was previously employed as a Fire Controlman, Naval Flight Officer, and Aerospace Engineering Duty Officer in the U.S. Navy and operated, maintained, and installed various sensor systems including magnetic, electromagnetic, radar, communications, and acoustic systems in various capacities from 1986 through 2010.
- I have been involved in various aspects of cave and karst studies continuously since 1985, including exploration, mapping, and scientific studies.
- I have read the definition of “qualified karst professional” set out in the ASTM Standard Practice for Preliminary Karst Terrain Assessment for Site Development (ASTM E-1527). I meet the definition of “qualified professional” for the purposes of this standard.
- I am responsible for the content, compilation, and editing of all sections of report number ENS-037-20260320 entitled, “Environmental Karst Study Report, PLU PB 04-26-31 USA Battery, Eddy County, New Mexico.” I or a duly authorized and qualified representative of Southwest Geophysical Consulting, LLC, have personally visited this site and/or reviewed the aerial imagery on the date or dates mentioned in section **2.3 Description of Survey**.

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

Dated in Albuquerque, New Mexico, May 4, 2026.



David D. Decker
PhD, CPG-12123





APPENDIX C

Photographic Log



Photographic Log

XTO Energy, Inc
PLU PB 04-26-31 USA Battery
nAPP2435351259



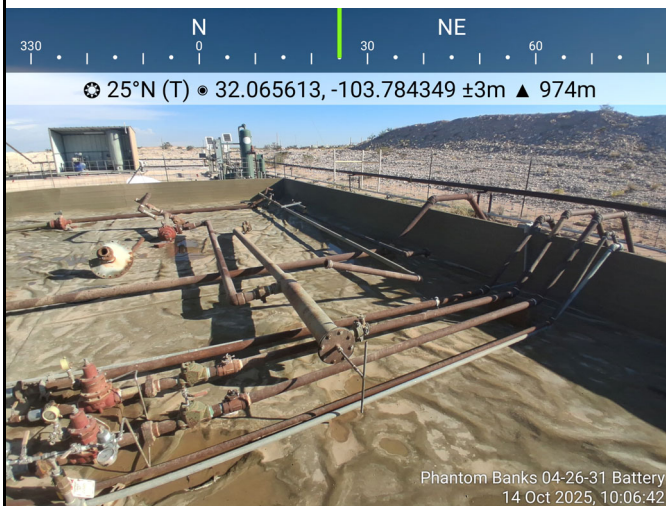
Photograph: 1 Date: 12/14/2024
Description: Initial release extent
View: Northwest



Photograph: 2 Date: 10/14/2025
Description: Facility sign
View: North



Photograph: 3 Date: 10/14/2025
Description: Liner inspection activities near identified holes (BH01)
View: Southeast



Photograph: 4 Date: 10/14/2025
Description: Liner inspection activities near northern section of liner
View: Northeast

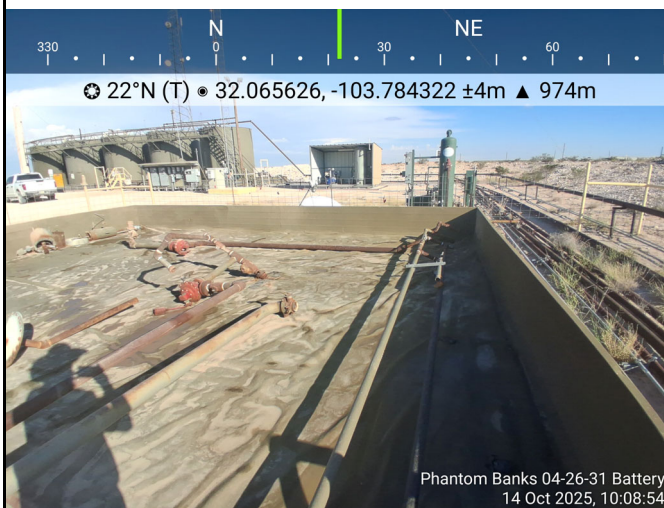


Photographic Log

XTO Energy, Inc
 PLU PB 04-26-31 USA Battery
 nAPP2435351259



Photograph: 5 Date: 10/14/2025
 Description: Liner inspection activities near central portion of liner
 View: Northwest



Photograph: 6 Date: 10/14/2025
 Description: Liner inspection activities near eastern wall
 View: North



Photograph: 7 Date: 10/14/2025
 Description: Liner inspection activities near northwest corner
 View: Northeast



Photograph: 8 Date: 10/22/2025
 Description: Delineation activities; near SS03
 View: Northwest



Photographic Log

XTO Energy, Inc
PLU PB 04-26-31 USA Battery
nAPP2435351259



Photograph: 9 Date: 10/31/2025
Description: Identified holes near BH01; approx 18" apart
View: Direct



Photograph: 10 Date: 10/31/2025
Description: Delineation activities; near BH01
View: North



Photograph: 11 Date: 10/31/2025
Description: Liner patching activities near BH01
View: Direct



Photograph: 12 Date: 10/31/2025
Description: Northern section of liner
View: Southeast



Photographic Log

XTO Energy, Inc
PLU PB 04-26-31 USA Battery
nAPP2435351259



Photograph: 13 Date: 10/31/2025
Description: Liner patching activities near BH01
View: East



Photograph: 14 Date: 10/31/2025
Description: Full view of liner, northwest corner
View: Southeast



Photograph: 15 Date: 10/31/2025
Description: Full view of liner, northeast corner
View: Southwest



Photograph: 16 Date: 10/31/2025
Description: Eastern wall
View: South

**Photographic Log**

XTO Energy, Inc
 PLU PB 04-26-31 USA Battery
 nAPP2435351259



Photograph: 17 Date: 6/2/2026
 Description: Liner deconstruction activities
 View: Southeast



Photograph: 18 Date: 6/2/2026
 Description: Liner deconstruction activities
 View: South



Photograph: 19 Date: 6/2/2026
 Description: Liner deconstruction activities
 View: East

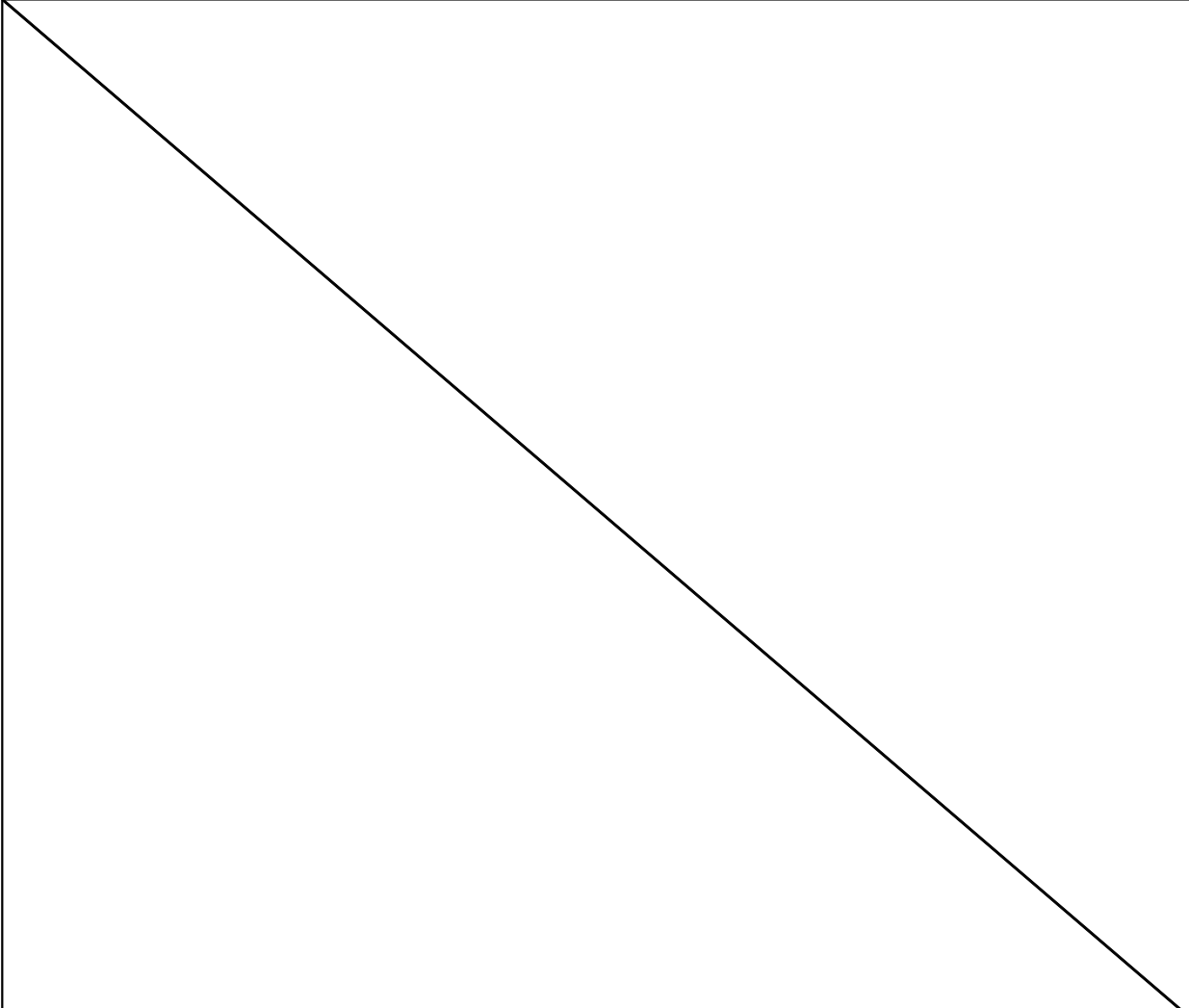


Photograph: 20 Date: 6/2/2026
 Description: Liner deconstruction activities
 View: East



APPENDIX D

Lithologic Soil Sampling Logs

								Sample Name: BH01		Date: 10/31/2025			
								Site Name: PLU PB 04-26-31 USA Battery					
								Incident Number: nAPP2435351259					
								Job Number: 03C1558713					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By:JB		Method:Hand Auger			
Coordinates: 32.064765, -103.784360								Hole Diameter: NA		Total Depth: 2'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
M	1,108	3.6	N	BH01	0.5	0	CCHE	Beige, silty pad caliche, well graded					
D	935	0.0	N	BH01		0.5		Very pale beige, with gravel, well graded					
						1							
						1.5							
D	<168	0.0	N	BH01A	2	2							
Total depth @ 2' below													
													



APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation



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

October 23, 2025

JEREMY REICH

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU PB 04-26-31 USA BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/22/25 10:37.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM, LLC
 JEREMY REICH
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 10/22/2025
 Reported: 10/23/2025
 Project Name: PLU PB 04-26-31 USA BATTERY
 Project Number: 03C1558713
 Project Location: XTO 32.06541, -103.78424

Sampling Date: 10/22/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: SS 01 SURFACE (H256649-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/22/2025	ND	1.90	94.8	2.00	1.52		
Toluene*	<0.050	0.050	10/22/2025	ND	1.93	96.4	2.00	1.47		
Ethylbenzene*	<0.050	0.050	10/22/2025	ND	1.94	96.9	2.00	0.770		
Total Xylenes*	<0.150	0.150	10/22/2025	ND	6.01	100	6.00	0.868		
Total BTEX	<0.300	0.300	10/22/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	10/23/2025	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2025	ND	217	109	200	2.05	
DRO >C10-C28*	<10.0	10.0	10/22/2025	ND	205	103	200	2.20	
EXT DRO >C28-C36	<10.0	10.0	10/22/2025	ND					

Surrogate: 1-Chlorooctane 81.8 % 52.4-130

Surrogate: 1-Chlorooctadecane 77.1 % 39.9-141

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in cursive script, appearing to read "C. D. Keene", written in black ink.

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1-1

[illegible]



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

October 23, 2025

JEREMY REICH

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU PB 04-26-31 USA BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/22/25 10:37.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' at the beginning.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM, LLC
 JEREMY REICH
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 10/22/2025
 Reported: 10/23/2025
 Project Name: PLU PB 04-26-31 USA BATTERY
 Project Number: 03C1558713
 Project Location: XTO 32.06541, -103.78424

Sampling Date: 10/22/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: SS 02 SURFACE (H256650-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/22/2025	ND	1.90	94.8	2.00	1.52		
Toluene*	<0.050	0.050	10/22/2025	ND	1.93	96.4	2.00	1.47		
Ethylbenzene*	<0.050	0.050	10/22/2025	ND	1.94	96.9	2.00	0.770		
Total Xylenes*	<0.150	0.150	10/22/2025	ND	6.01	100	6.00	0.868		
Total BTEX	<0.300	0.300	10/22/2025	ND						

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

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	10/23/2025	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2025	ND	217	109	200	2.05	
DRO >C10-C28*	<10.0	10.0	10/22/2025	ND	205	103	200	2.20	
EXT DRO >C28-C36	<10.0	10.0	10/22/2025	ND					

Surrogate: 1-Chlorooctane 92.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 85.1 % 39.9-141

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM, LLC
 JEREMY REICH
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 10/22/2025
 Reported: 10/23/2025
 Project Name: PLU PB 04-26-31 USA BATTERY
 Project Number: 03C1558713
 Project Location: XTO 32.06541, -103.78424

Sampling Date: 10/22/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: SS 03 SURFACE (H256650-02)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2025	ND	1.90	94.8	2.00	1.52	
Toluene*	<0.050	0.050	10/22/2025	ND	1.93	96.4	2.00	1.47	
Ethylbenzene*	<0.050	0.050	10/22/2025	ND	1.94	96.9	2.00	0.770	
Total Xylenes*	<0.150	0.150	10/22/2025	ND	6.01	100	6.00	0.868	
Total BTX	<0.300	0.300	10/22/2025	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/23/2025	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2025	ND	217	109	200	2.05	
DRO >C10-C28*	<10.0	10.0	10/22/2025	ND	205	103	200	2.20	
EXT DRO >C28-C36	<10.0	10.0	10/22/2025	ND					

Surrogate: 1-Chlorooctane 94.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 88.0 % 39.9-141

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM, LLC
 JEREMY REICH
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 10/22/2025
 Reported: 10/23/2025
 Project Name: PLU PB 04-26-31 USA BATTERY
 Project Number: 03C1558713
 Project Location: XTO 32.06541, -103.78424

Sampling Date: 10/22/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: SS 04 SURFACE (H256650-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/22/2025	ND	1.90	94.8	2.00	1.52		
Toluene*	<0.050	0.050	10/22/2025	ND	1.93	96.4	2.00	1.47		
Ethylbenzene*	<0.050	0.050	10/22/2025	ND	1.94	96.9	2.00	0.770		
Total Xylenes*	<0.150	0.150	10/22/2025	ND	6.01	100	6.00	0.868		
Total BTEx	<0.300	0.300	10/22/2025	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	10/23/2025	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2025	ND	217	109	200	2.05	
DRO >C10-C28*	<10.0	10.0	10/22/2025	ND	205	103	200	2.20	
EXT DRO >C28-C36	<10.0	10.0	10/22/2025	ND					

Surrogate: 1-Chlorooctane 91.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 84.1 % 39.9-141

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2-2

[illegible]



Environment Testing

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Jeremy Reich

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 11/5/2025 9:07:55 AM

JOB DESCRIPTION

PLU PB 04-26-31 USA Battery-spill

03C1558713

JOB NUMBER

890-9007-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
11/5/2025 9:07:55 AM

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

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Laboratory Job ID: 890-9007-1
SDG: 03C1558713

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	21

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Definitions/Glossary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1

Job ID: 890-9007-1

Eurofins Carlsbad

Job Narrative 890-9007-1

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

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

Receipt

The samples were received on 10/31/2025 4:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-9007-1) and BH01A (890-9007-2).

GC VOA

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

Diesel Range Organics

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-122575 and analytical batch 880-122718 was outside control limits. Sample non-homogeneity is suspected.

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

HPLC/IC

Method 300_ORGFM_28D - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-122779 and analytical batch 880-122808 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Client Sample ID: BH01

Lab Sample ID: 890-9007-1

Date Collected: 10/31/25 11:15

Matrix: Solid

Date Received: 10/31/25 16:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 16:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 16:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 16:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/03/25 09:40	11/03/25 16:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 16:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/03/25 09:40	11/03/25 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	11/03/25 09:40	11/03/25 16:29	1
1,4-Difluorobenzene (Surr)	93		70 - 130	11/03/25 09:40	11/03/25 16:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			11/03/25 16:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/04/25 01:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/31/25 12:48	11/04/25 01:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/31/25 12:48	11/04/25 01:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/31/25 12:48	11/04/25 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	10/31/25 12:48	11/04/25 01:25	1
o-Terphenyl	108		70 - 130	10/31/25 12:48	11/04/25 01:25	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	803		9.92	mg/Kg			11/04/25 19:46	1

Client Sample ID: BH01A

Lab Sample ID: 890-9007-2

Date Collected: 10/31/25 12:40

Matrix: Solid

Date Received: 10/31/25 16:13

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/03/25 09:40	11/03/25 16:49	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/03/25 09:40	11/03/25 16:49	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/03/25 09:40	11/03/25 16:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/03/25 09:40	11/03/25 16:49	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/03/25 09:40	11/03/25 16:49	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/03/25 09:40	11/03/25 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	11/03/25 09:40	11/03/25 16:49	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Client Sample ID: BH01A

Lab Sample ID: 890-9007-2

Date Collected: 10/31/25 12:40

Matrix: Solid

Date Received: 10/31/25 16:13

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	93		70 - 130	11/03/25 09:40	11/03/25 16:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/03/25 16:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/04/25 01:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/04/25 01:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/04/25 01:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/04/25 01:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	10/31/25 12:48	11/04/25 01:40	1
o-Terphenyl	113		70 - 130	10/31/25 12:48	11/04/25 01:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460		50.2	mg/Kg			11/04/25 19:52	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-64432-A-1-E MS	Matrix Spike	101	100
880-64432-A-1-F MSD	Matrix Spike Duplicate	100	97
890-9007-1	BH01	101	93
890-9007-2	BH01A	101	93
LCS 880-122703/1-A	Lab Control Sample	101	98
LCSD 880-122703/2-A	Lab Control Sample Dup	102	98
MB 880-122703/5-A	Method Blank	108	94
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-64399-A-15-C MS	Matrix Spike	103	99
880-64399-A-15-D MSD	Matrix Spike Duplicate	97	110
890-9007-1	BH01	103	108
890-9007-2	BH01A	106	113
LCS 880-122575/2-A	Lab Control Sample	90	106
LCSD 880-122575/3-A	Lab Control Sample Dup	91	107
MB 880-122575/1-A	Method Blank	89	98
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-122703/5-A

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122703

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 11:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 11:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/03/25 09:40	11/03/25 11:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/03/25 09:40	11/03/25 11:30	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/03/25 09:40	11/03/25 11:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/03/25 09:40	11/03/25 11:30	1
1,4-Difluorobenzene (Surr)	94		70 - 130	11/03/25 09:40	11/03/25 11:30	1

Lab Sample ID: LCS 880-122703/1-A

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122703

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09859		mg/Kg		99	70 - 130
Toluene	0.100	0.08993		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09284		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1887		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09193		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-122703/2-A

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 122703

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1012		mg/Kg		101	70 - 130	3	35
Toluene	0.100	0.09367		mg/Kg		94	70 - 130	4	35
Ethylbenzene	0.100	0.09587		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1955		mg/Kg		98	70 - 130	3	35
o-Xylene	0.100	0.09453		mg/Kg		95	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 880-64432-A-1-E MS

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 122703

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.100	0.1028		mg/Kg		103	70 - 130
Toluene	<0.00199	U	0.100	0.09409		mg/Kg		94	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

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

Lab Sample ID: 880-64432-A-1-E MS

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 122703

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.09583		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1945		mg/Kg		97	70 - 130
o-Xylene	<0.00199	U	0.100	0.09421		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-64432-A-1-F MSD

Matrix: Solid

Analysis Batch: 122686

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 122703

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1068		mg/Kg		107	70 - 130	4	35
Toluene	<0.00199	U	0.100	0.09781		mg/Kg		98	70 - 130	4	35
Ethylbenzene	<0.00199	U	0.100	0.09837		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1992		mg/Kg		100	70 - 130	2	35
o-Xylene	<0.00199	U	0.100	0.09537		mg/Kg		95	70 - 130	1	35

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

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

Lab Sample ID: MB 880-122575/1-A

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122575

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/03/25 21:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/03/25 21:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/31/25 12:48	11/03/25 21:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	10/31/25 12:48	11/03/25 21:10	1
o-Terphenyl	98		70 - 130	10/31/25 12:48	11/03/25 21:10	1

Lab Sample ID: LCS 880-122575/2-A

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1220		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1102		mg/Kg		110	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

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

Lab Sample ID: LCS 880-122575/2-A

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122575

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: LCSD 880-122575/3-A

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 122575

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1168		mg/Kg		117	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1110		mg/Kg		111	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 880-64399-A-15-C MS

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 122575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	911.6		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	830.3		mg/Kg		83	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 880-64399-A-15-D MSD

Matrix: Solid

Analysis Batch: 122718

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 122575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1036		mg/Kg		102	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	1032	F2	mg/Kg		103	70 - 130	22	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	110		70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum

Job ID: 890-9007-1

Project/Site: PLU PB 04-26-31 USA Battery-spill

SDG: 03C1558713

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-122779/1-A

Matrix: Solid

Analysis Batch: 122808

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0	mg/Kg			11/04/25 17:14	1

Lab Sample ID: LCS 880-122779/2-A

Matrix: Solid

Analysis Batch: 122808

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	238.9		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-122779/3-A

Matrix: Solid

Analysis Batch: 122808

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	240.5		mg/Kg		96	90 - 110	1	20

Lab Sample ID: 880-64497-A-4-B MS

Matrix: Solid

Analysis Batch: 122808

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3170	F1	1240	4696	F1	mg/Kg		123	90 - 110

Lab Sample ID: 880-64497-A-4-C MSD

Matrix: Solid

Analysis Batch: 122808

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3170	F1	1240	4705	F1	mg/Kg		124	90 - 110	0	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

GC VOA

Analysis Batch: 122686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	8021B	122703
890-9007-2	BH01A	Total/NA	Solid	8021B	122703
MB 880-122703/5-A	Method Blank	Total/NA	Solid	8021B	122703
LCS 880-122703/1-A	Lab Control Sample	Total/NA	Solid	8021B	122703
LCSD 880-122703/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	122703
880-64432-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	122703
880-64432-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	122703

Prep Batch: 122703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	5035	
890-9007-2	BH01A	Total/NA	Solid	5035	
MB 880-122703/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-122703/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-122703/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-64432-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-64432-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 122816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	Total BTEX	
890-9007-2	BH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 122575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	8015NM Prep	
890-9007-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-122575/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-122575/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-122575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-64399-A-15-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-64399-A-15-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 122718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	8015B NM	122575
890-9007-2	BH01A	Total/NA	Solid	8015B NM	122575
MB 880-122575/1-A	Method Blank	Total/NA	Solid	8015B NM	122575
LCS 880-122575/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	122575
LCSD 880-122575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	122575
880-64399-A-15-C MS	Matrix Spike	Total/NA	Solid	8015B NM	122575
880-64399-A-15-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	122575

Analysis Batch: 122877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Total/NA	Solid	8015 NM	
890-9007-2	BH01A	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

HPLC/IC

Leach Batch: 122779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Soluble	Solid	DI Leach	
890-9007-2	BH01A	Soluble	Solid	DI Leach	
MB 880-122779/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-122779/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-122779/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-64497-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-64497-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 122808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9007-1	BH01	Soluble	Solid	300.0	122779
890-9007-2	BH01A	Soluble	Solid	300.0	122779
MB 880-122779/1-A	Method Blank	Soluble	Solid	300.0	122779
LCS 880-122779/2-A	Lab Control Sample	Soluble	Solid	300.0	122779
LCSD 880-122779/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	122779
880-64497-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	122779
880-64497-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	122779

Lab Chronicle

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Client Sample ID: BH01
Date Collected: 10/31/25 11:15
Date Received: 10/31/25 16:13

Lab Sample ID: 890-9007-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	122703	11/03/25 09:40	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	122686	11/03/25 16:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			122816	11/03/25 16:29	SA	EET MID
Total/NA	Analysis	8015 NM		1			122877	11/04/25 01:25	SA	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	122575	10/31/25 12:48	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	122718	11/04/25 01:25	FC	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	122779	11/03/25 16:19	SA	EET MID
Soluble	Analysis	300.0		1			122808	11/04/25 19:46	CS	EET MID

Client Sample ID: BH01A
Date Collected: 10/31/25 12:40
Date Received: 10/31/25 16:13

Lab Sample ID: 890-9007-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	122703	11/03/25 09:40	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	122686	11/03/25 16:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			122816	11/03/25 16:49	SA	EET MID
Total/NA	Analysis	8015 NM		1			122877	11/04/25 01:40	SA	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	122575	10/31/25 12:48	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	122718	11/04/25 01:40	FC	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	122779	11/03/25 16:19	SA	EET MID
Soluble	Analysis	300.0		5			122808	11/04/25 19:52	CS	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400	06-30-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU PB 04-26-31 USA Battery-spill

Job ID: 890-9007-1
SDG: 03C1558713

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9007-1	BH01	Solid	10/31/25 11:15	10/31/25 16:13	0.5
890-9007-2	BH01A	Solid	10/31/25 12:40	10/31/25 16:13	2

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



Environment Testing

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 565-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody



096-9007 Chain of Custody

www.adilco.com

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

Work Order Comments	
Program: UST/PST	☐ RP ☐ Rowfields ☐ RC ☐ perfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible]

Eurofins Carlsbad

1089 N Canal St.
Carlsbad NM 88220

Chain of Custody Record



Environment Toxicology

[illegible]

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9007-1

SDG Number: 03C1558713

Login Number: 9007

List Number: 1

Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9007-1

SDG Number: 03C1558713

Login Number: 9007

List Number: 2

Creator: Laing, Edmundo

List Source: Eurofins Midland

List Creation: 11/02/25 05:05 PM

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



APPENDIX F

NMOCD Correspondence

From: [Wells, Shelly, EMNRD](#)
To: [Jeremy Reich](#)
Cc: [Bratcher, Michael, EMNRD](#); [Kotzur, Richard](#); [Woodall, Robert D](#); [Tacoma Morrissey](#); [Ben Belill](#); [Tracy Hillard](#)
Subject: RE: [EXTERNAL] XTO - Status Update - PLU PB 04-26-31 USA Battery - Incident Number nAPP2435351259
Date: Tuesday, May 5, 2026 3:36:01 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

[**EXTERNAL EMAIL**]

Good afternoon Jeremy,

A 30-day extension is approved for nAPP2435351259 PLU PB 04-26-31 USA BATTERY. A complete and accurate report is due to OCD no later than June 4, 2026. Please include a copy of this and all notifications in the report to ensure the notifications are documented in the project file.

Kind regards,

Shelly

Shelly Wells * Senior Environmental Scientist
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520 Shelly.Wells@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>

From: Jeremy Reich <jreich@ensolum.com>
Sent: Tuesday, May 5, 2026 1:15 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kotzur, Richard <richard.kotzur@exxonmobil.com>; Woodall, Robert D <robert.d.woodall@exxonmobil.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; Ben Belill <bbelill@ensolum.com>; Tracy Hillard <thillard@ensolum.com>
Subject: [EXTERNAL] XTO - Status Update - PLU PB 04-26-31 USA Battery - Incident Number nAPP2435351259

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

Good afternoon,

XTO is providing a remediation status update for a release that occurred at the PLU PB 04-26-31 USA Battery (Incident Number nAPP2435351259) Site. The release occurred on December 14, 2024. The release occurred within a 1,205 square foot, steel walled lined containment. The containment houses vertical separator equipment and production piping. A 48-hour advanced notice of the liner inspection was submitted to the NMOCD on October 9, 2025. The lined containment was cleaned of all debris and power washed and a liner integrity inspection was conducted by Ensolum personnel on October 14, 2025. The lined containment was inspected, and it was determined to contain two small holes in close proximity to each other. Delineation activities began on October 22, 2025. A *Deferral Request* was submitted to the NMOCD on December 24, 2025. The request was denied by the NMOCD on February 4, 2026, for the following reasons:

This site is located in a medium karst potential occurrence zone and OCD has recently reevaluated karst potential zones and will not approve deferrals in these areas as medium karst may cause an imminent risk to groundwater. The operator may choose to have karst surveys performed, by a BLM approved karst/cave contractor, in order to determine if karst features are present at the site. A desktop survey, aerial/pedestrian survey, AND a geophysical survey must be performed. If no karst features are located during any of the surveys AND the geophysical survey shows no other indications of unstable ground, the closure criteria can be based on Table I Closure criteria found in 19.15.29 NMAC. Sites located on BLM or State Land Office (SLO) owned surface will need surface owner approval. A certified civil engineer will need to evaluate the soil type and provide the minimum distance the excavation(s) needs to be from the equipment and how deep the excavation(s) can be prior to requesting a deferral. This document must be stamped by the engineer. 2) According to the Chain of Custody for lab samples BH01 and BH01A, samples were collected at .5' and 2' depths. Referring to Table I, sample depths were .5' and 1'. Update report to reflect correct depth. Submit updated deferral request or remediation closure report to the OCD by 5/5/2026.

An environmental karst survey was scheduled and conducted at the Site in April 2026. The final report for the karst survey is pending. XTO will submit an updated deferral request following a review of the karst survey results. To provide time to review the final report of the karst survey and complete the draft of the deferral report, XTO requests a 30-day extension until June 5, 2026.



Jeremy Reich
Project Geologist
432-296-0627
[Ensolum, LLC](#)
in f X

Location:	PLU PB 04-26-31 USA Battery	
Spill Date:	12/14/2024	
Area 1		
Approximate Area =	1207.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.25	
VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	10.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =		bbls
Total Produced Water =	10.00	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =		bbls
Total Produced Water =	10.00	bbls

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS

Action 413592

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 413592
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2435351259
Incident Name	NAPP2435351259 PLU PB 04-26-31 USA BATTERY @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received

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

Site Name	PLU PB 04-26-31 USA Battery
Date Release Discovered	12/14/2024
Surface Owner	Federal

Incident Details*Please answer all the questions in this group.*

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

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

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Separator Produced Water Released: 10 BBL Recovered: 10 BBL Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 2

Action 413592

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 413592
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/18/2024
--	--

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 3

Action 413592

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 413592
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Not answered.
What method was used to determine the depth to ground water	Not answered.
Did this release impact groundwater or surface water	Not answered.
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	Not answered.
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Not answered.
An occupied permanent residence, school, hospital, institution, or church	Not answered.
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Not answered.
Any other fresh water well or spring	Not answered.
Incorporated municipal boundaries or a defined municipal fresh water well field	Not answered.
A wetland	Not answered.
A subsurface mine	Not answered.
An (non-karst) unstable area	Not answered.
Categorize the risk of this well / site being in a karst geology	Not answered.
A 100-year floodplain	Not answered.
Did the release impact areas not on an exploration, development, production, or storage site	Not answered.

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	No
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 413592

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 413592
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	12/18/2024

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS

Action 592278

QUESTIONS

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2435351259
Incident Name	NAPP2435351259 PLU PB 04-26-31 USA BATTERY @ FAPP2126356595
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Facility	[fAPP2126356595] PLU PHANTOM BANKS 04-26-31 USA BATT

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

Site Name	PLU PB 04-26-31 USA BATTERY
Date Release Discovered	12/14/2024
Surface Owner	Federal

Incident Details*Please answer all the questions in this group.*

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

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

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Separator Produced Water Released: 10 BBL Recovered: 10 BBL Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 2

Action 592278

QUESTIONS (continued)

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 06/04/2026
--	---

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 3

Action 592278

QUESTIONS (continued)

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
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 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	803
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	10/14/2025
On what date will (or did) the final sampling or liner inspection occur	10/14/2025
On what date will (or was) the remediation complete(d)	10/31/2025
What is the estimated surface area (in square feet) that will be reclaimed	1205
What is the estimated volume (in cubic yards) that will be reclaimed	90
What is the estimated surface area (in square feet) that will be remediated	1205
What is the estimated volume (in cubic yards) that will be remediated	90
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 4

Action 592278

QUESTIONS (continued)

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	No
(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)	Yes
Other Non-listed Remedial Process. Please specify	Delineation activities only. Submitting remediation plan.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 06/04/2026
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 5

Action 592278

QUESTIONS (continued)

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 6

Action 592278

QUESTIONS (continued)

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	519064
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/29/2025
What was the (estimated) number of samples that were to be gathered	6
What was the sampling surface area in square feet	1200

Remediation Closure Request

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

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

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 592278

CONDITIONS

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 592278
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation plan approved with the following conditions:	6/9/2026
scwells	1) Excavation must continue past the proposed depth of excavation if confirmation samples do not meet the applicable Table I Closure Criteria.	6/9/2026
scwells	2) Confirmation soil samples must consist of five-point composite samples from the side wall and base and individual grab samples from any wet or discolored areas, representing a surface area of no more than 200 ft2.	6/9/2026
scwells	Submit a complete and accurate report to the OCD by 9/7/26.	6/9/2026